

FIG. 1

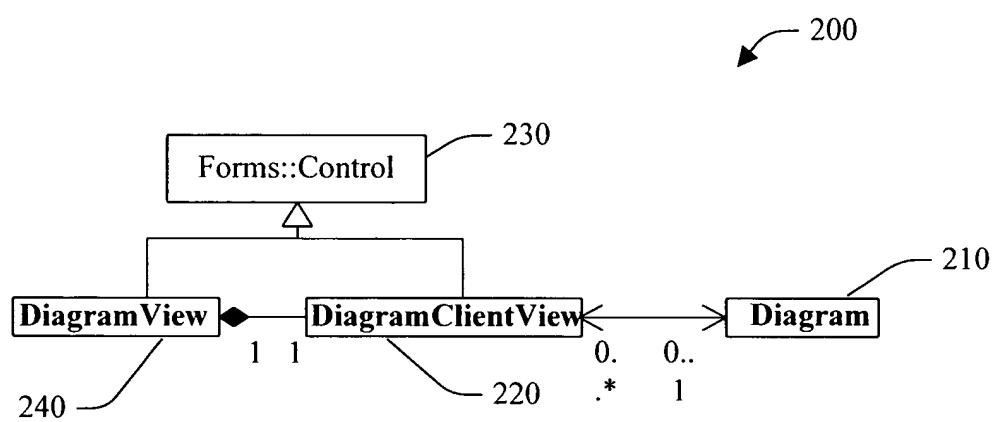


FIG. 2

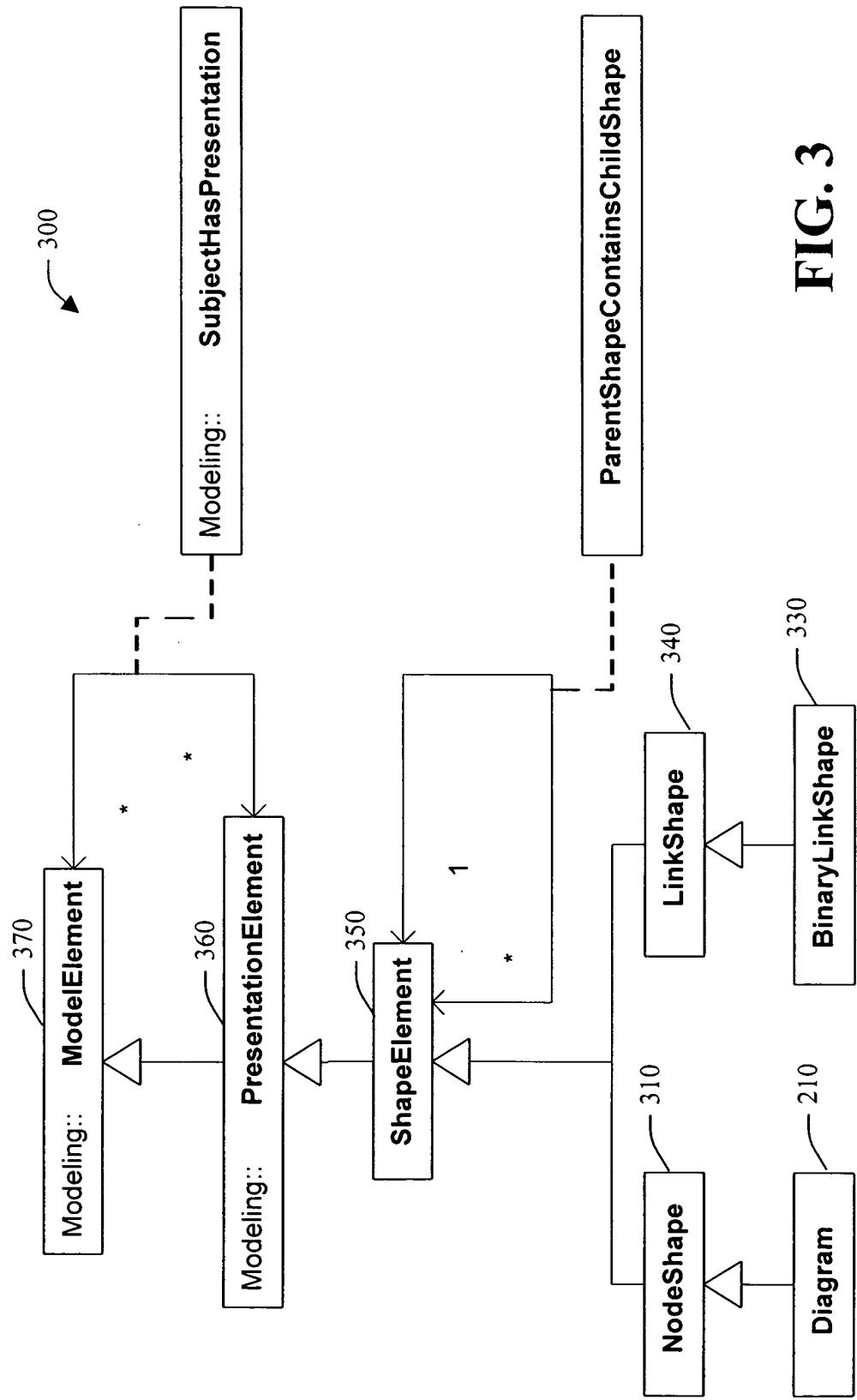


FIG. 3

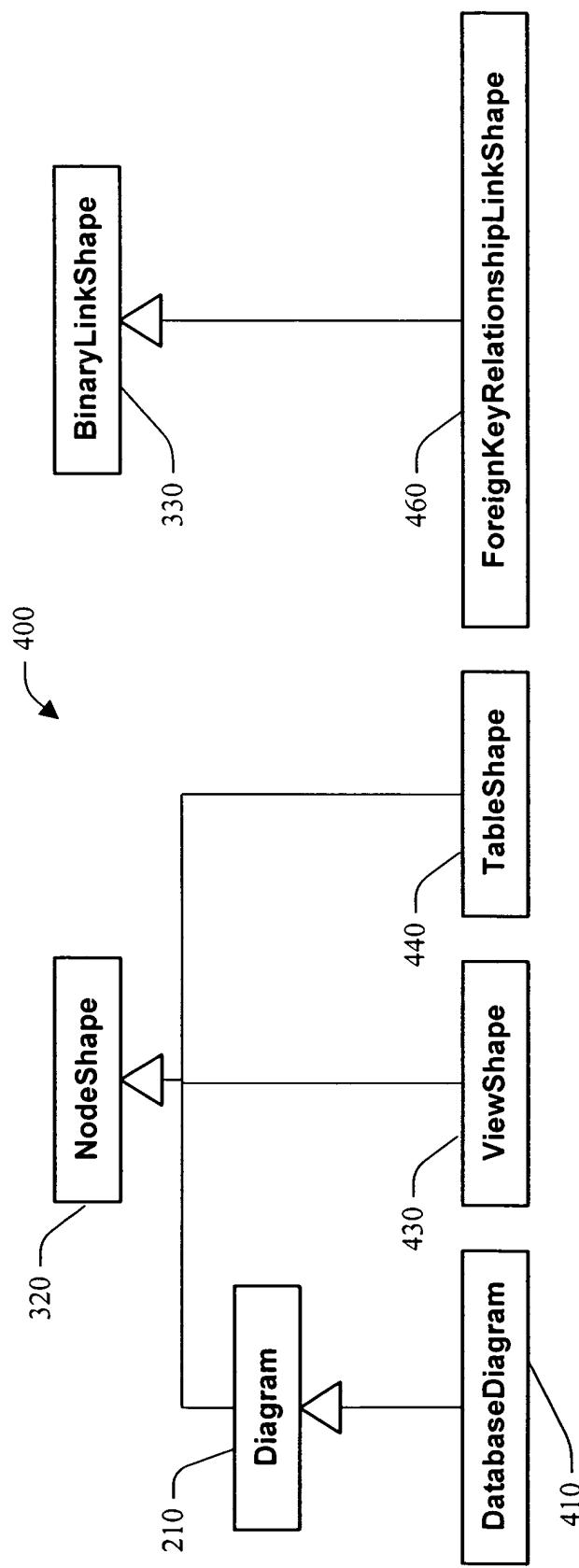


FIG. 4

ShapeElement

```
+Invalidate(in absoluteShapeBounds : RectangleD)
+DoHitTest(in point : PointD, in hitTestInfo : DiagramHitTestInfo) : bool
+OnPaintShape(in paintArgs : DiagramPaintEventArgs)
+OnPaintSelection(in paintArgs : DiagramPaintEventArgs)
+OnPaintFeedback(in paintArgs : DiagramPaintEventArgs)
+OnMouseDown(in mouseArgs : DiagramMouseEventArgs)
+OnMouseMove(in mouseArgs : DiagramMouseEventArgs)
+OnMouseUp(in mouseArgs : DiagramMouseEventArgs)
+OnDragOver(in diagramDragArgs : DiagramDragEventArgs)
+OnDragDrop(in diagramDragArgs : DiagramDragEventArgs)
+OnKeyDown(in keyArgs : DiagramKeyEventArgs)
+OnKeyUp(in keyArgs : DiagramKeyEventArgs)
+OnKeyPress(in keyPressArgs : DiagramKeyPressEventArgs)
+ShapeFields() : ShapeFieldCollection
+AddChild(in childShape : ShapeElement)
+Parent() : ShapeElement
+Diagram() : Diagram
+Children() : IList
#ShapeGeometry() : ShapeGeometry
+AbsoluteBoundingBox() : RectangleD
+BoundingBox() : RectangleD
+ZOrder() : double
+StyleSet() : StyleSet
```

600

<i>NodeShape</i>
+AbsoluteBounds() : RectangleD
+Bounds() : RectangleD
+Location() : PointD
+Size() : SizeD
+BoundsRules() : BoundsRules
-GetCompliantBounds(in proposedBounds : RectangleD) : RectangleD

FIG. 6

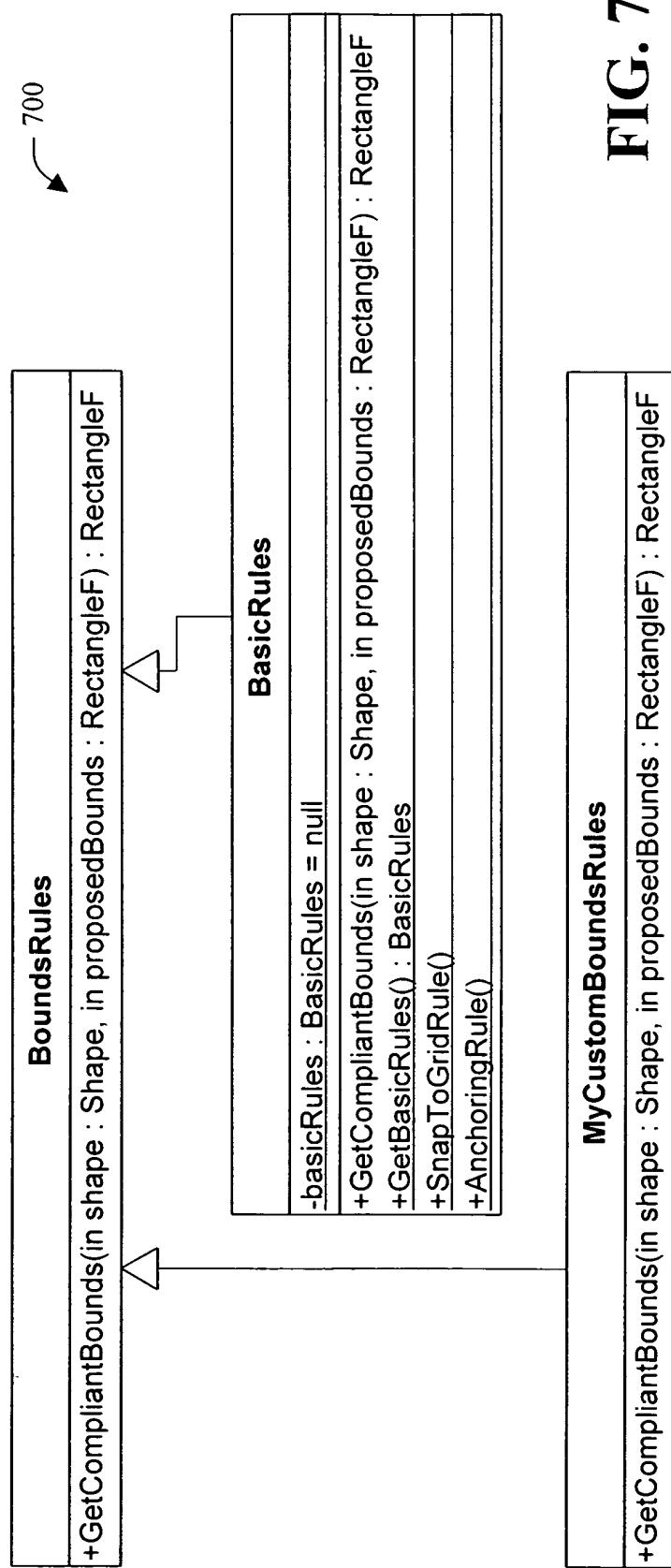


FIG. 7

800

<i>Diagram</i>
<p>+SnapToGrid() : bool +ShowGrid() : bool +Associate(in designSurface : DesignSurface) +Unassociate(in designSurface : DesignSurface) +Graph() : GraphWrapper</p>

FIG. 8

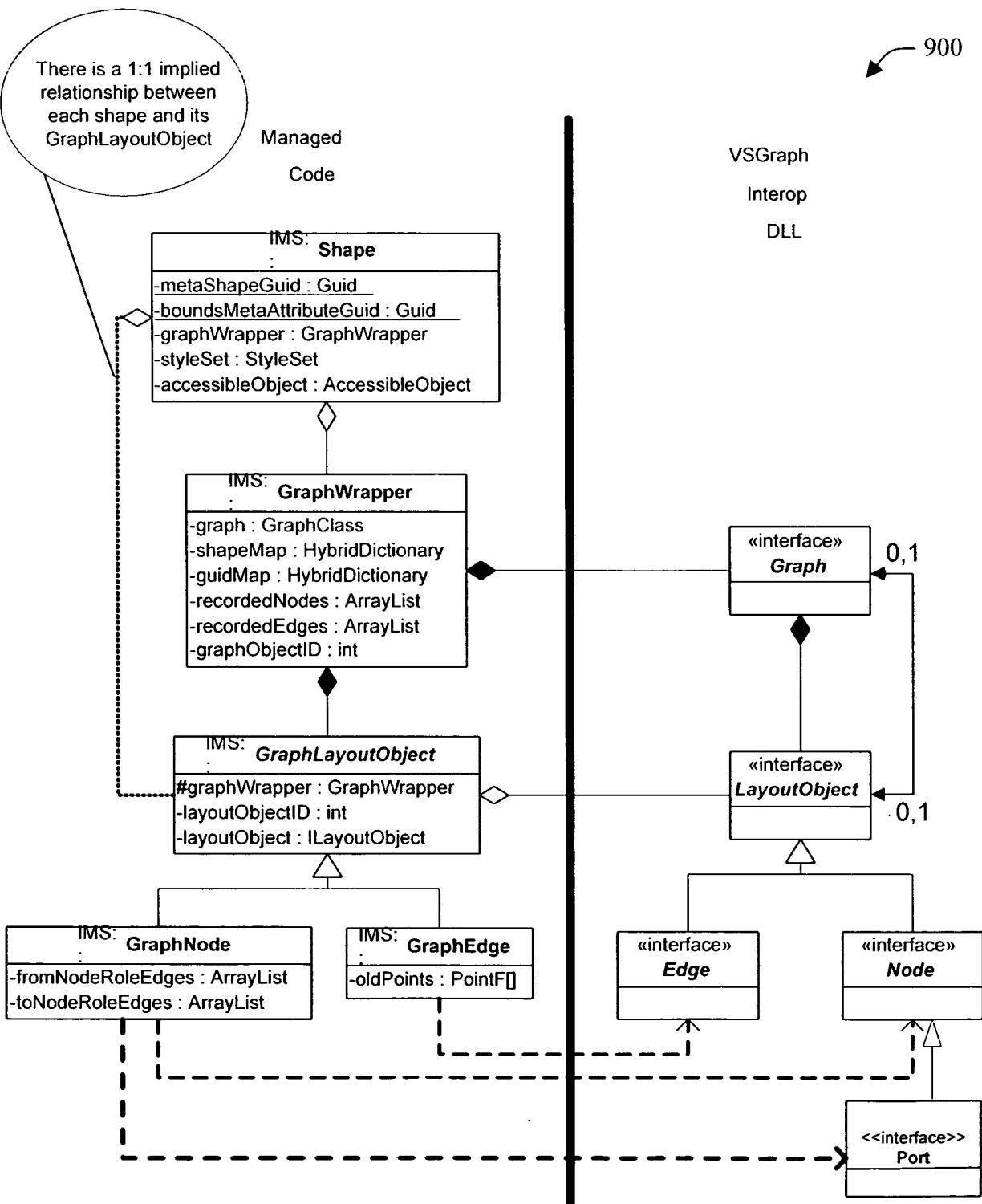


FIG. 9

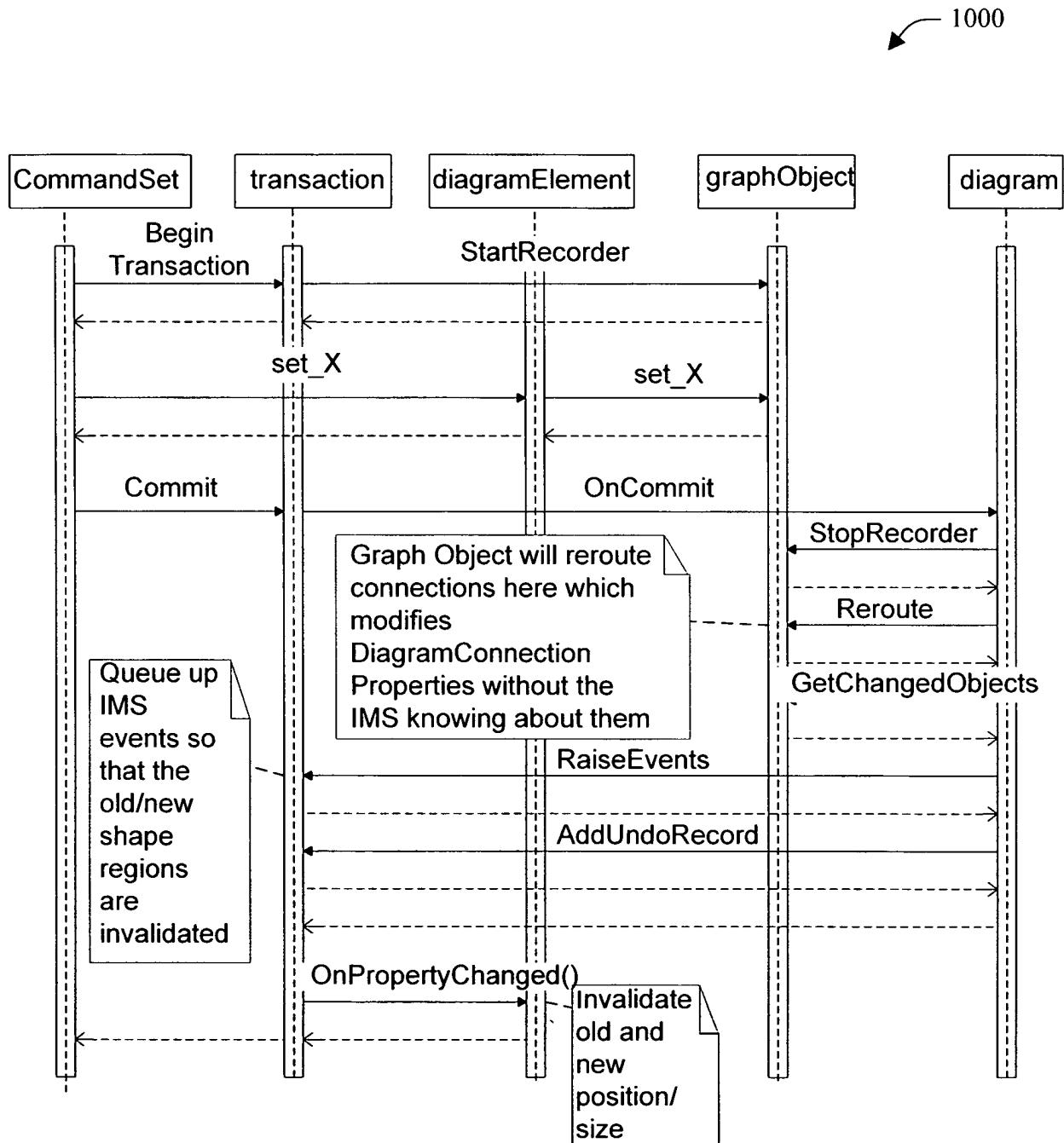


FIG. 10

1100

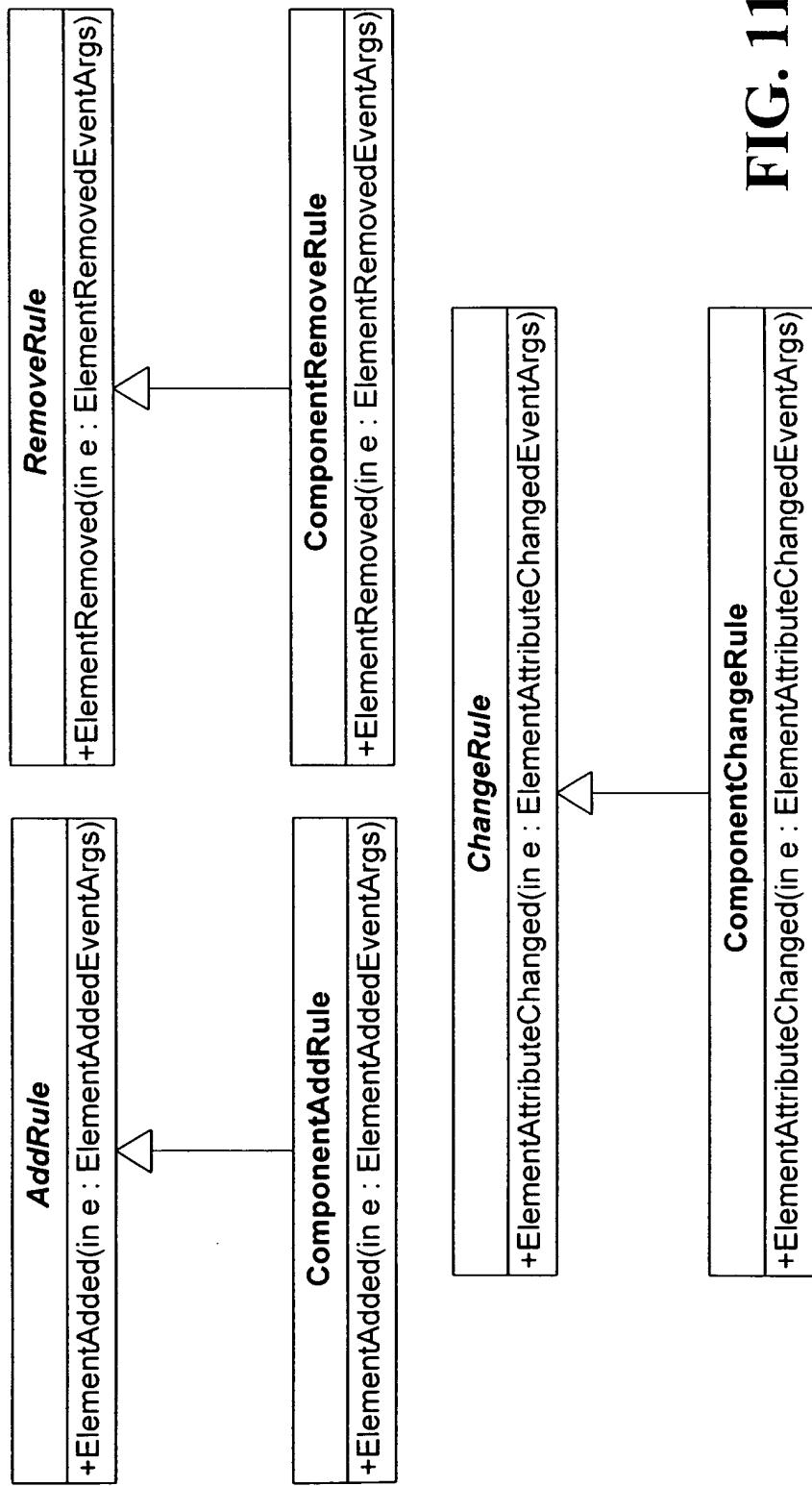


FIG. 11

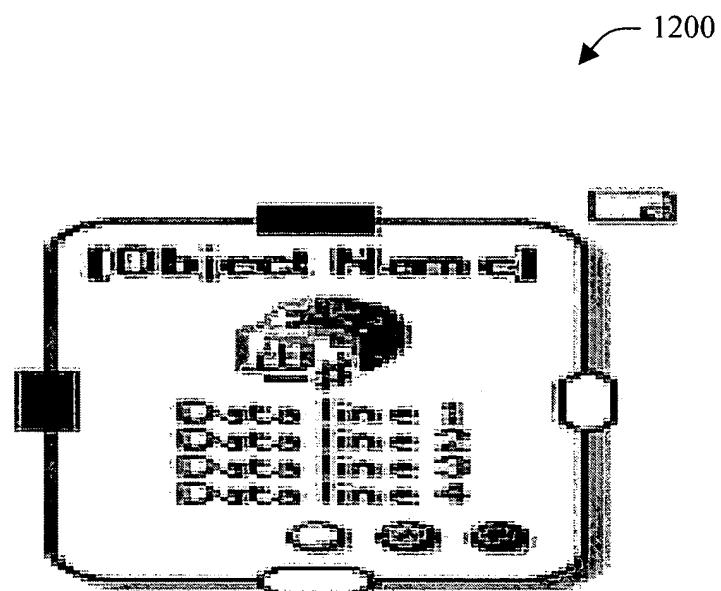


FIG. 12

1300

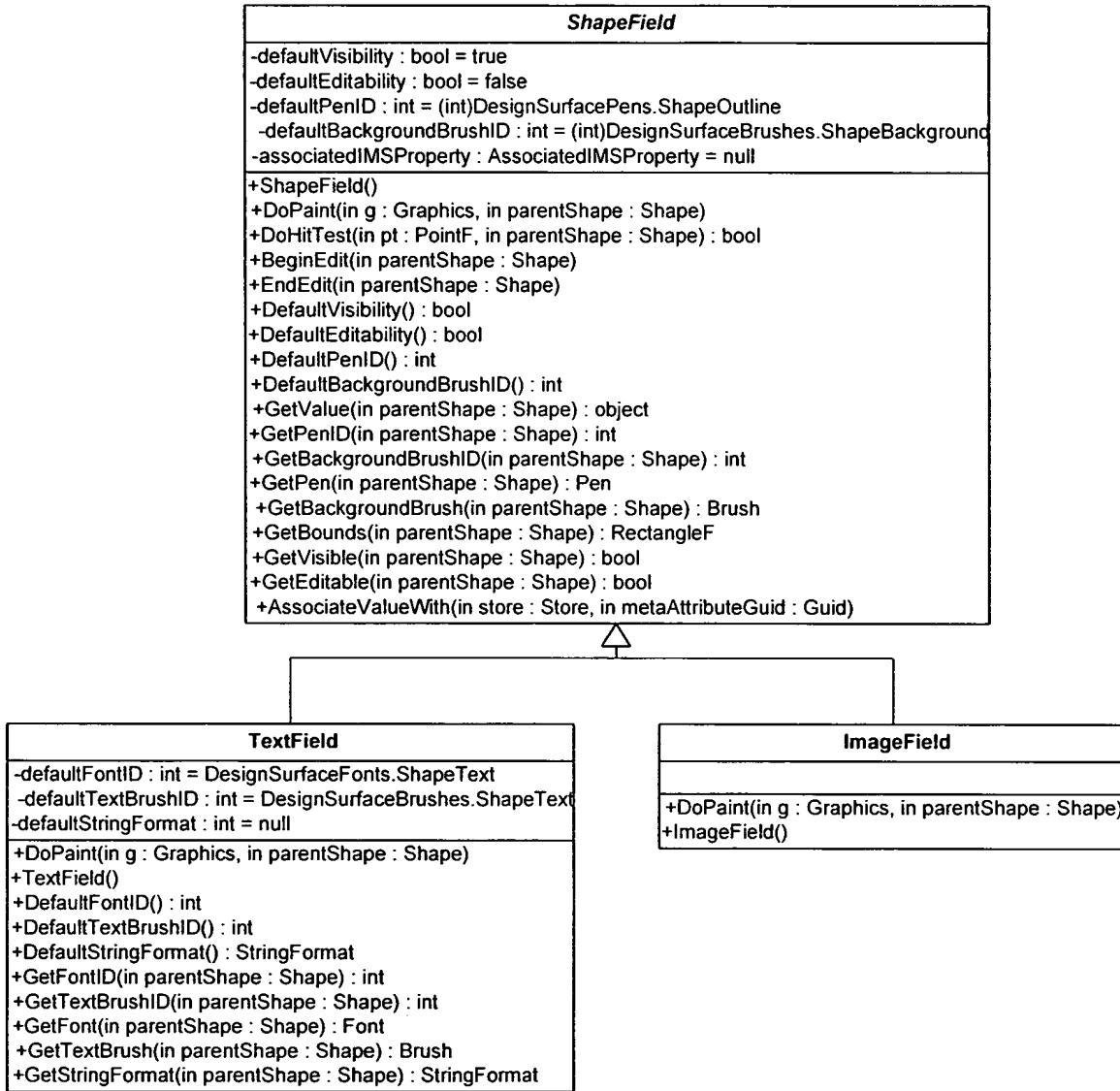
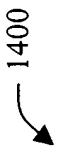


FIG. 13

FIG. 14



AssociatedIMSPROPERTY	
-propDesc : IMSPropertyDescriptor = null	
-store : Store = null	
#OnPropertyChangedHandler : ElementAttributeChangedEventHandler = null	
-AssociatedIMSPROPERTY()	
+AssociatedIMSPROPERTY(in store : Store, in metaAttributeGuid : Guid)	
+GetValue(in parentShape : Shape) : object	
#PropDescriptor() : IMSPropertyDescriptor	
+Subscribe>ToPropertyChangedEvent()	
+UnsubscribeFromPropertyChangedEvent()	
-OnPropertyChanged(in e : ElementAttributeChangedEventArgs)	

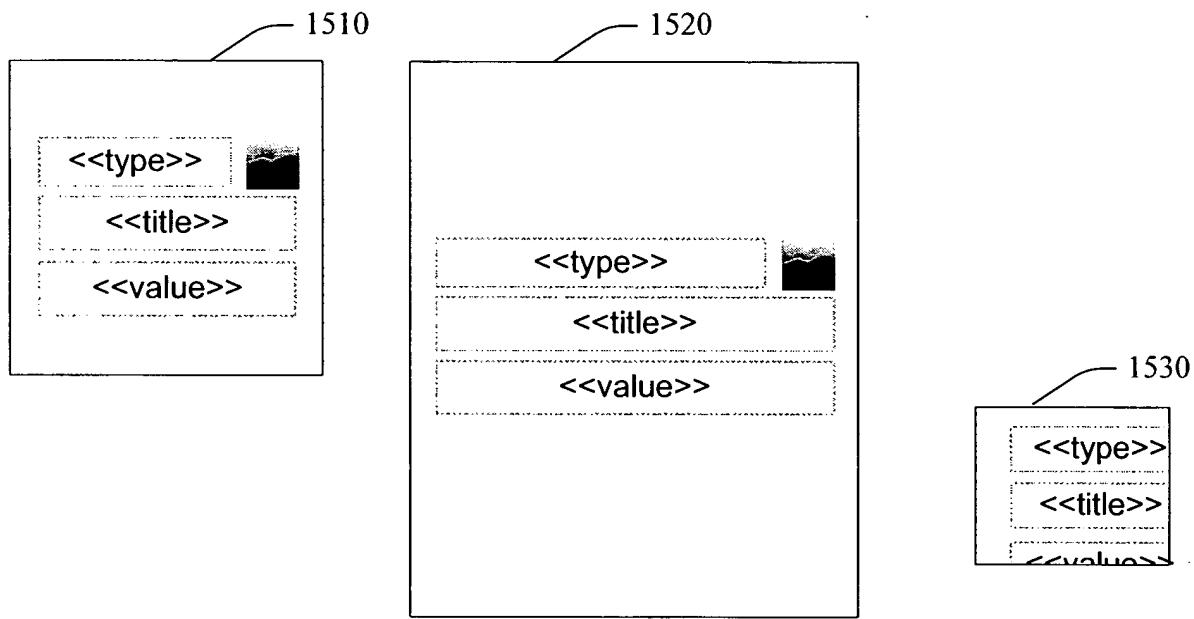


FIG. 15

BoundsBehavior

```

+leftAnchor : AnchorTarget
+rightAnchor : AnchorTarget
+bottomAnchor : AnchorTarget
+topAnchor : AnchorTarget
+horizontalSprings : Suspension
+verticalSprings : Suspension
+master : ShapeField
-minimumWidth : float
-minimumWidthInCharacters : float
-minimumHeight : float
-minimumHeightInLines : float

+MinimumWidth() : float
+MinimumWidthInCharacters() : float
+MinimumHeight() : float
+MinimumHeightInLines() : float
-isHorizontalCyclic(in sibling : ShapeField) : bool
-isVerticalCyclic(in sibling : ShapeField) : bool
+BoundsBehavior(in shapeField : ShapeField)
+SetLeftAnchor(in side : Edge, in margin : float)
+SetLeftAnchor(in sibling : ShapeField, in side : Edge, in margin : float)
+SetLeftAnchor(in sibling : Shape, in side : Edge, in margin : float)
+SetLeftAnchor(in side : Edge, in margin : float, in percentage : float)
+SetLeftAnchor(in sibling : ShapeField, in side : Edge, in margin : float)
+SetLeftAnchor(in sibling : Shape, in side : Edge, in margin : float)
+SetLeftAnchor(in side : Edge, in margin : float, in percentage : float)
+SetRightAnchor(in side : Edge, in margin : float)
+SetRightAnchor(in sibling : ShapeField, in side : Edge, in margin : float)
+SetRightAnchor(in sibling : Shape, in side : Edge, in margin : float)
+SetRightAnchor(in side : Edge, in margin : float, in percentage : float)
+SetRightAnchor(in sibling : ShapeField, in side : Edge, in margin : float)
+SetRightAnchor(in sibling : Shape, in side : Edge, in margin : float)
+SetTopAnchor(in side : Edge, in margin : float)
+SetTopAnchor(in sibling : ShapeField, in side : Edge, in margin : float)
+SetTopAnchor(in sibling : Shape, in side : Edge, in margin : float)
+SetTopAnchor(in side : Edge, in margin : float, in percentage : float)
+SetBottomAnchor(in side : Edge, in margin : float)
+SetBottomAnchor(in sibling : ShapeField, in side : Edge, in margin : float)
+SetBottomAnchor(in sibling : Shape, in side : Edge, in margin : float)
+SetBottomAnchor(in side : Edge, in margin : float, in percentage : float)
+SetBottomAnchor(in sibling : ShapeField, in side : Edge, in margin : float, in percentage : float)
+SetBottomAnchor(in sibling : Shape, in side : Edge, in margin : float, in percentage : float)

```

1600

FIG. 17

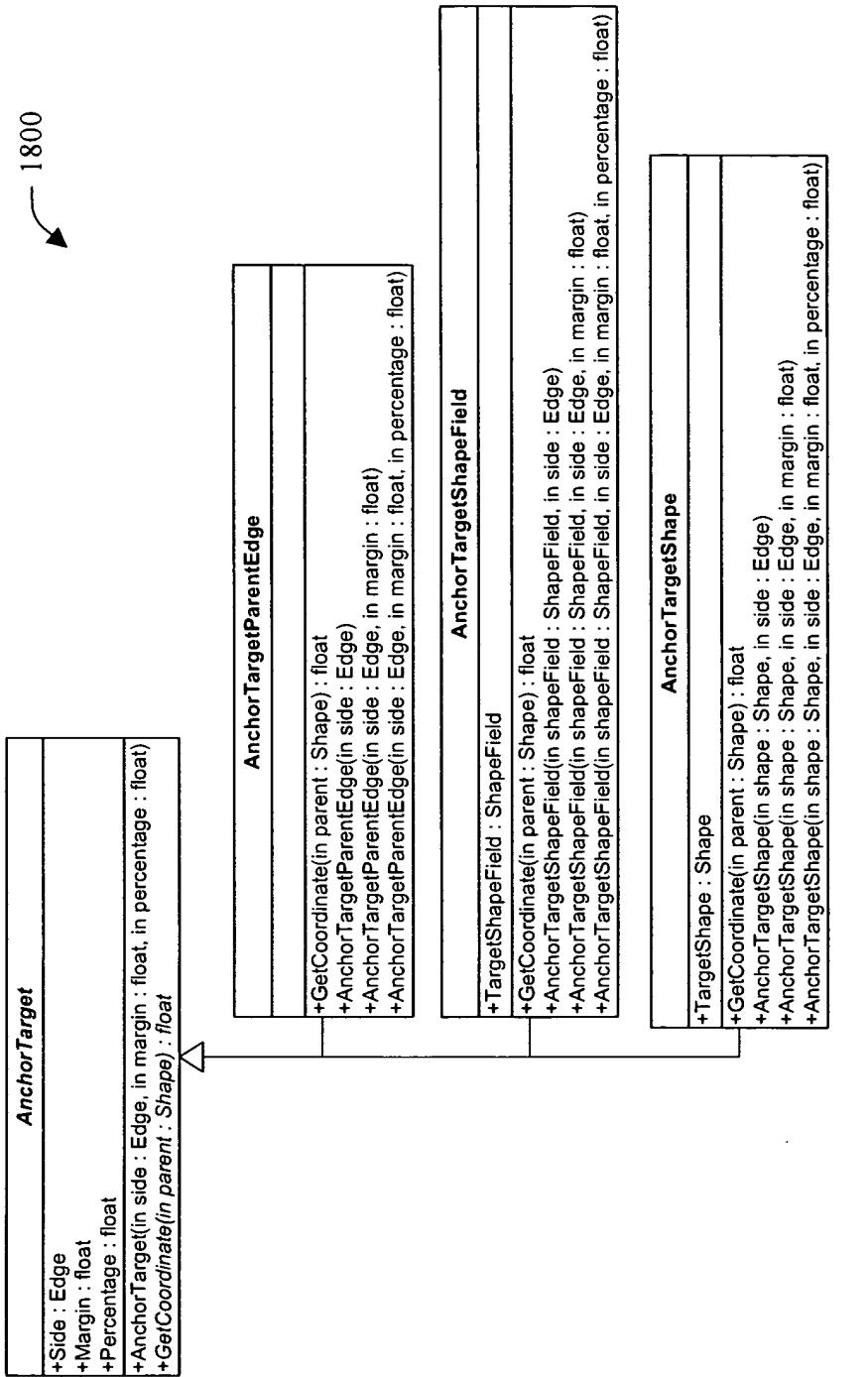


FIG. 18

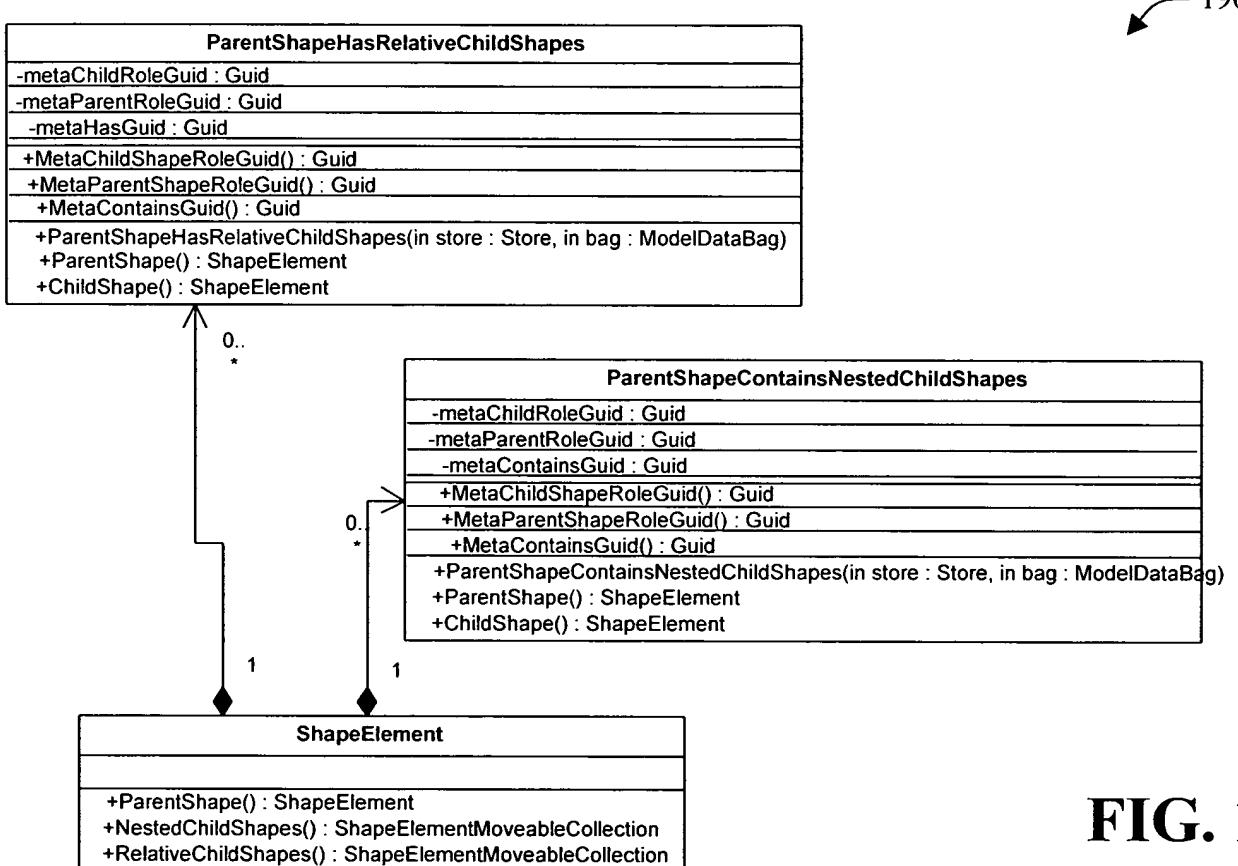


FIG. 19

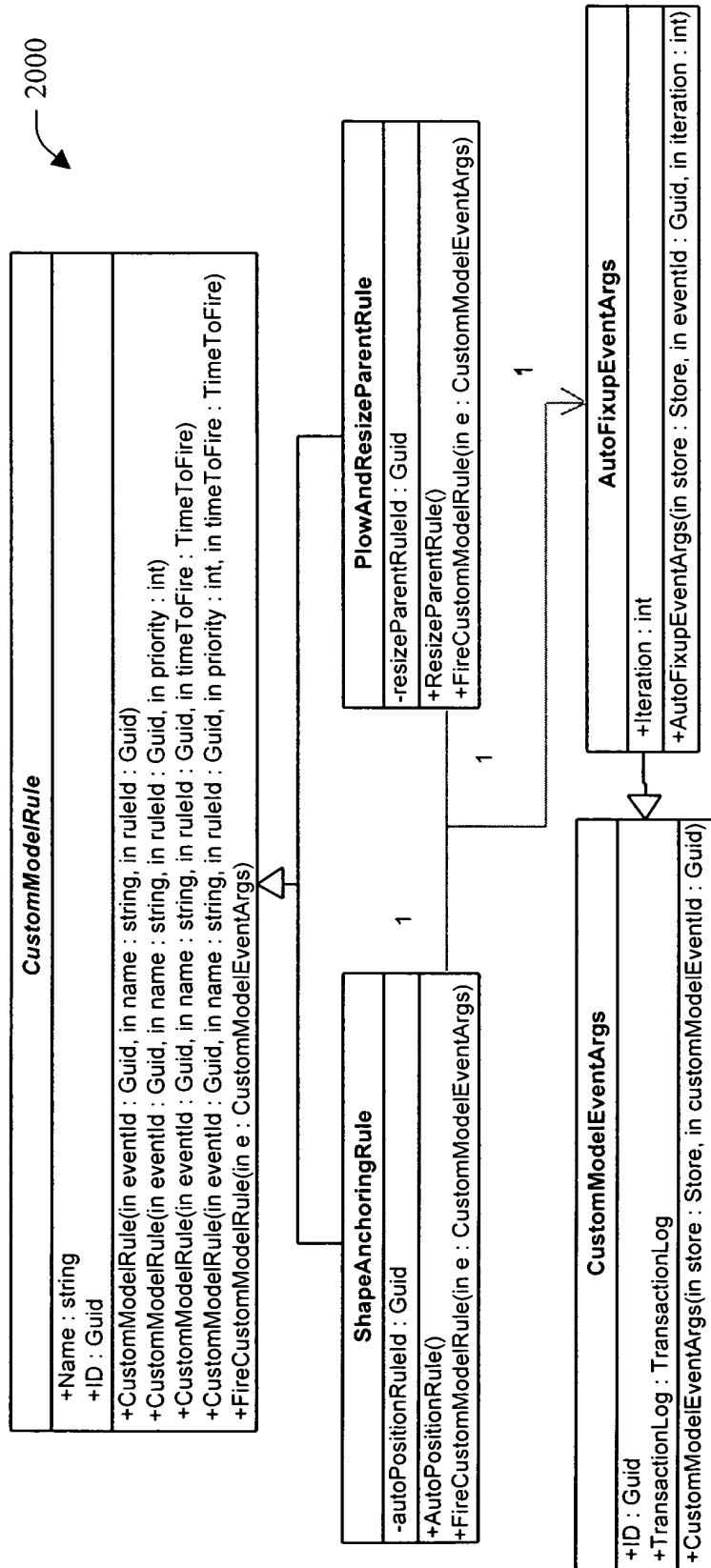
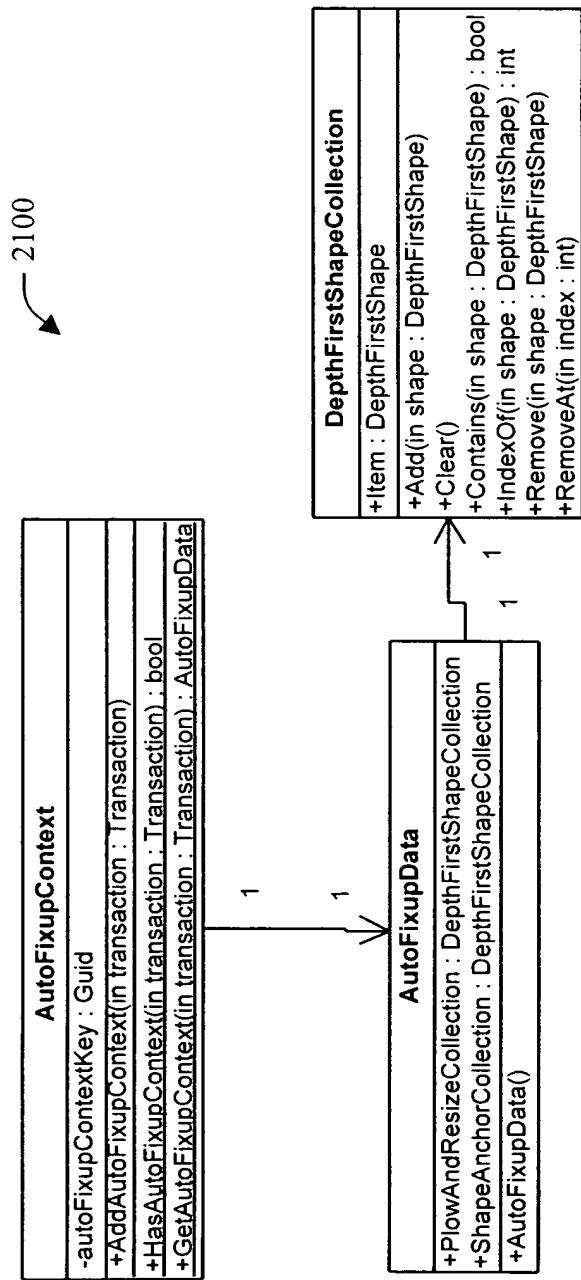


FIG. 20

FIG. 21



2200

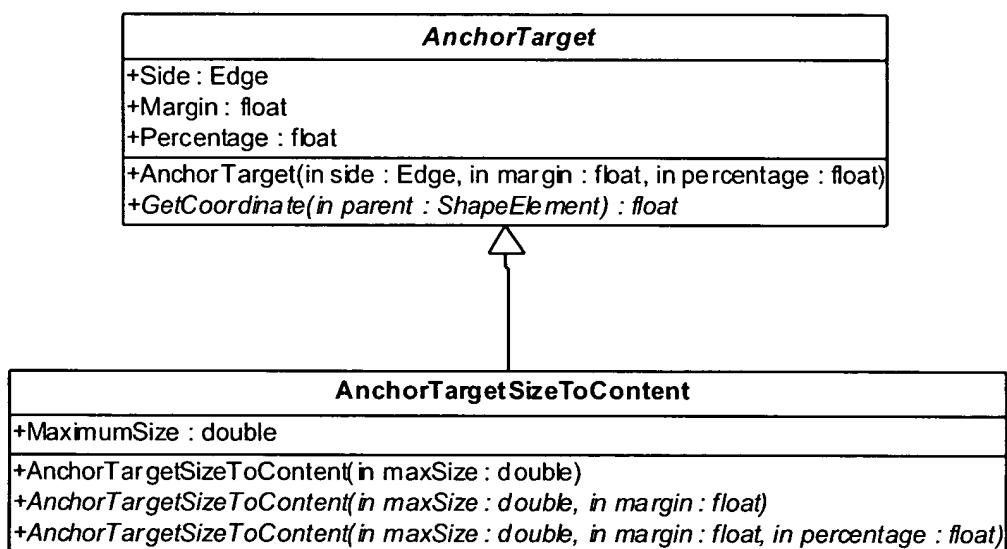


FIG. 22

2300

ShapeElement
+Visible : bool = true
+Collapse()
+Expand()

FIG. 23

2350

PORt CONNECTION DIRECTION DETERMINATION

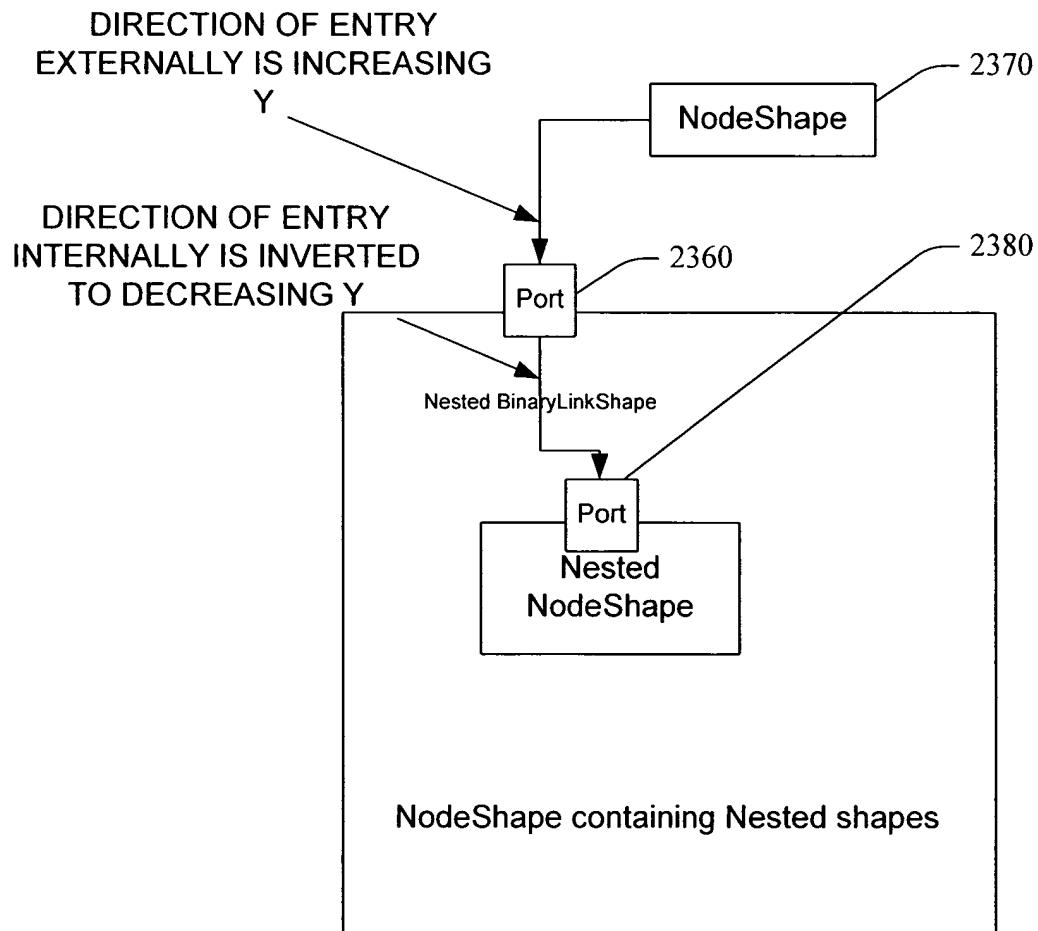


FIG. 23A

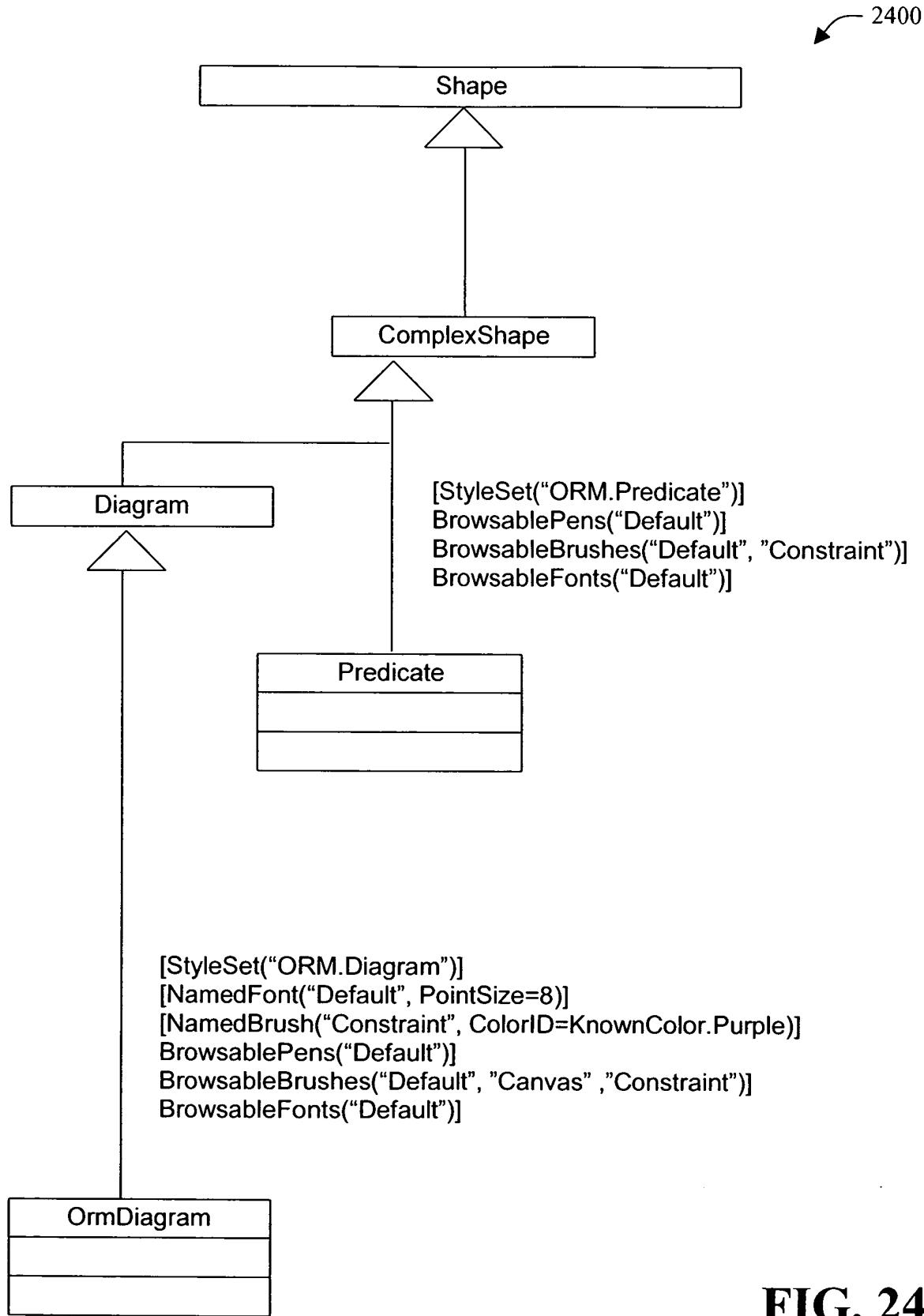


FIG. 24A

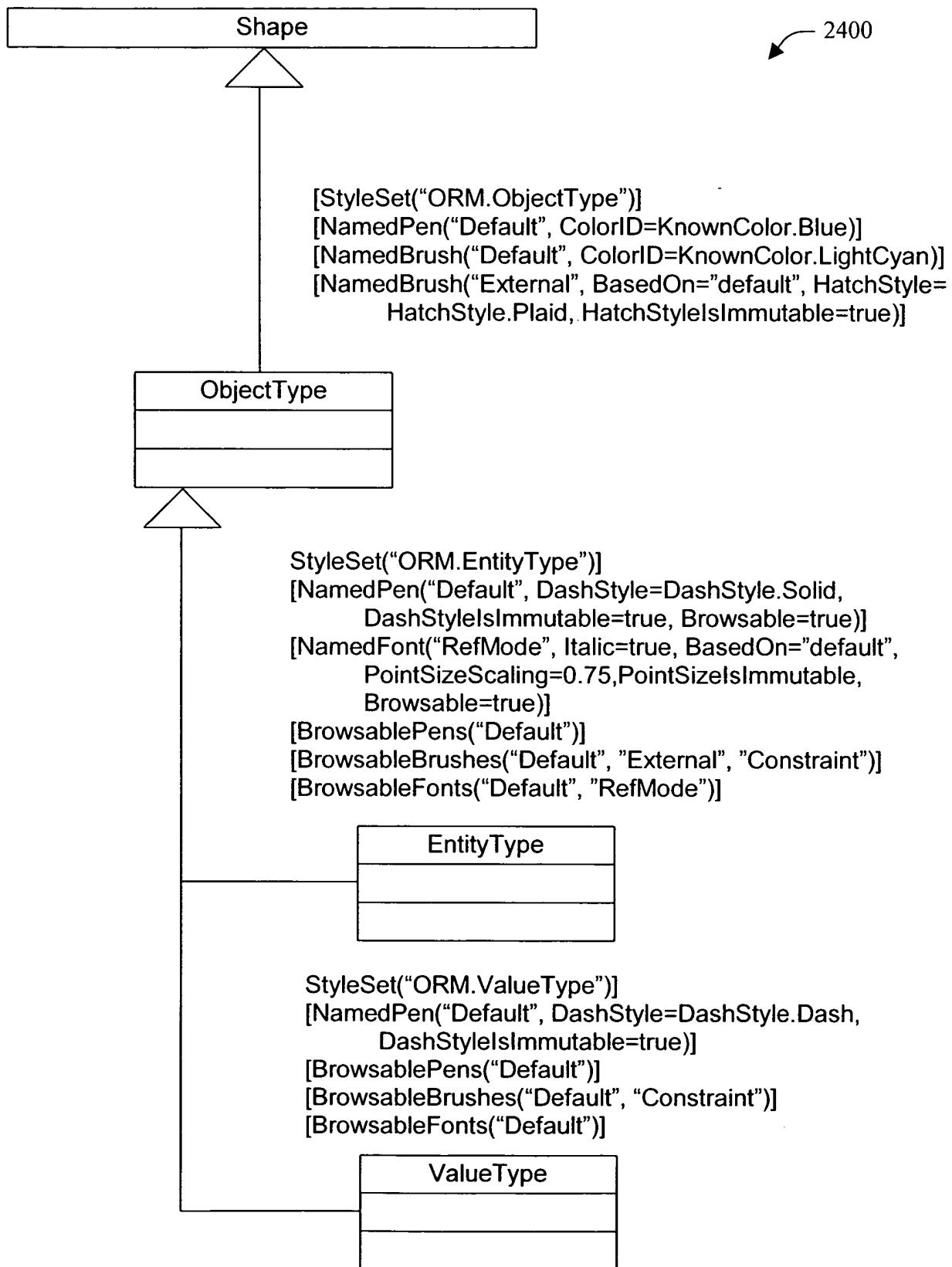


FIG. 24B

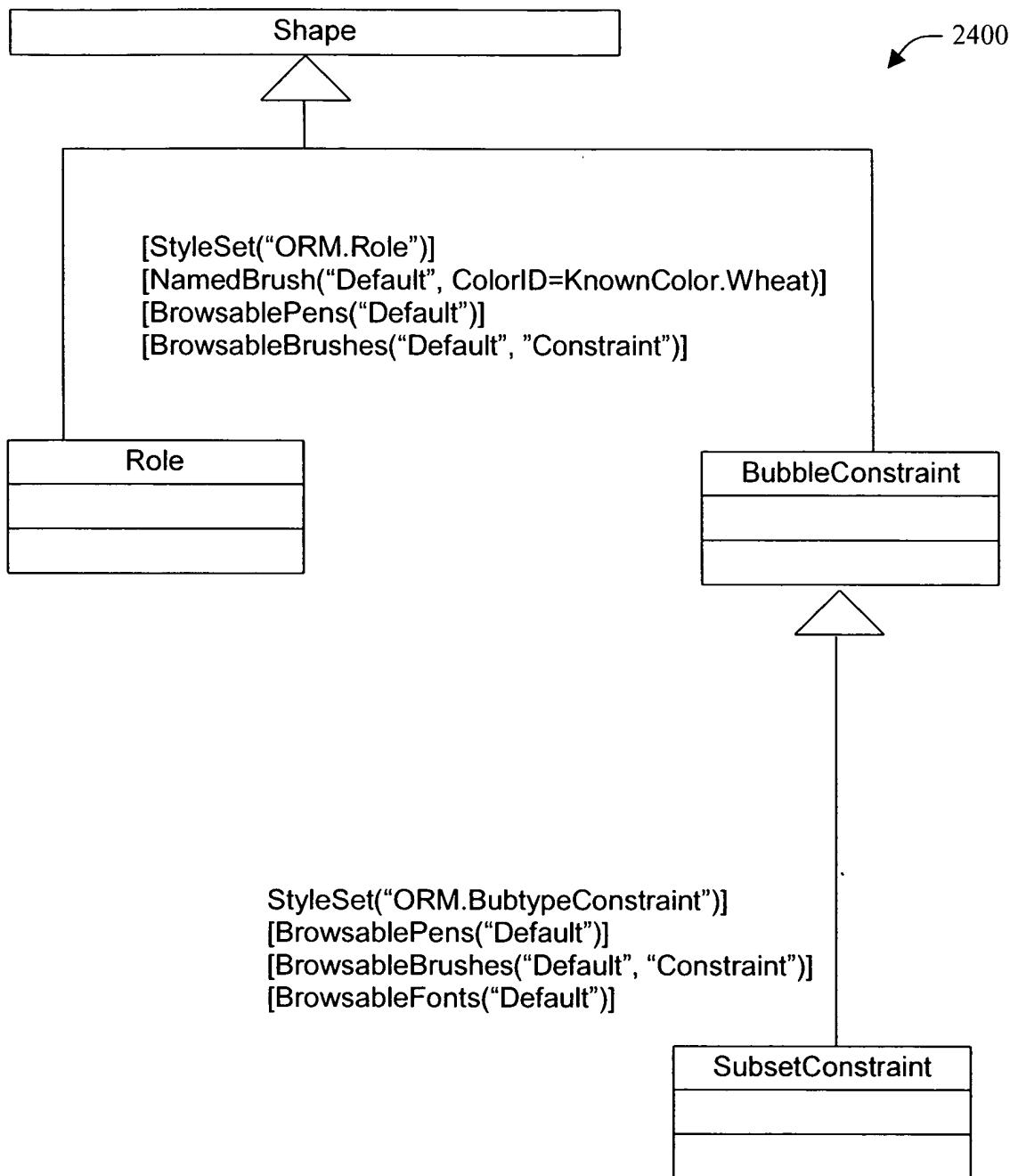


FIG. 24C

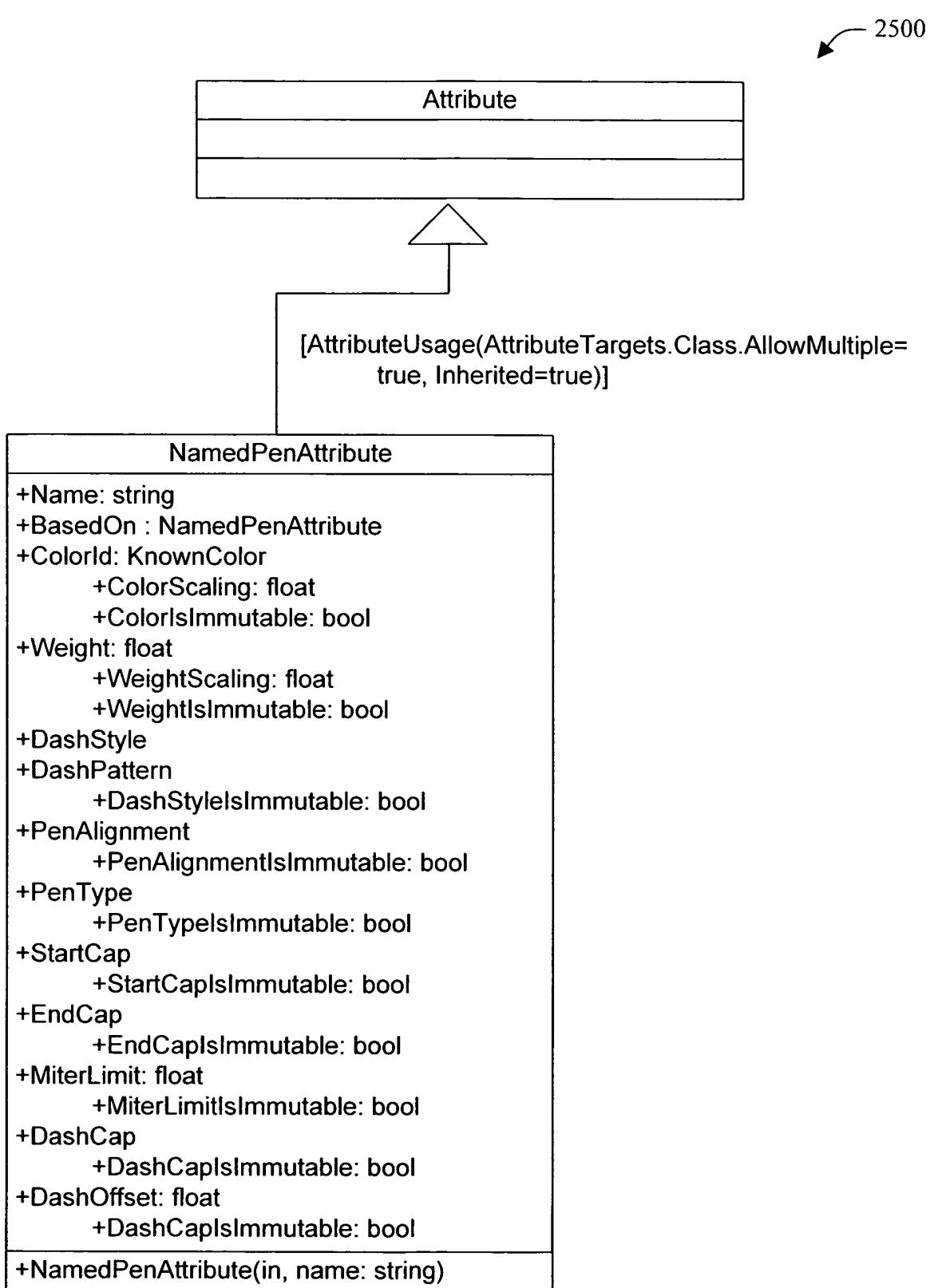


FIG. 25A

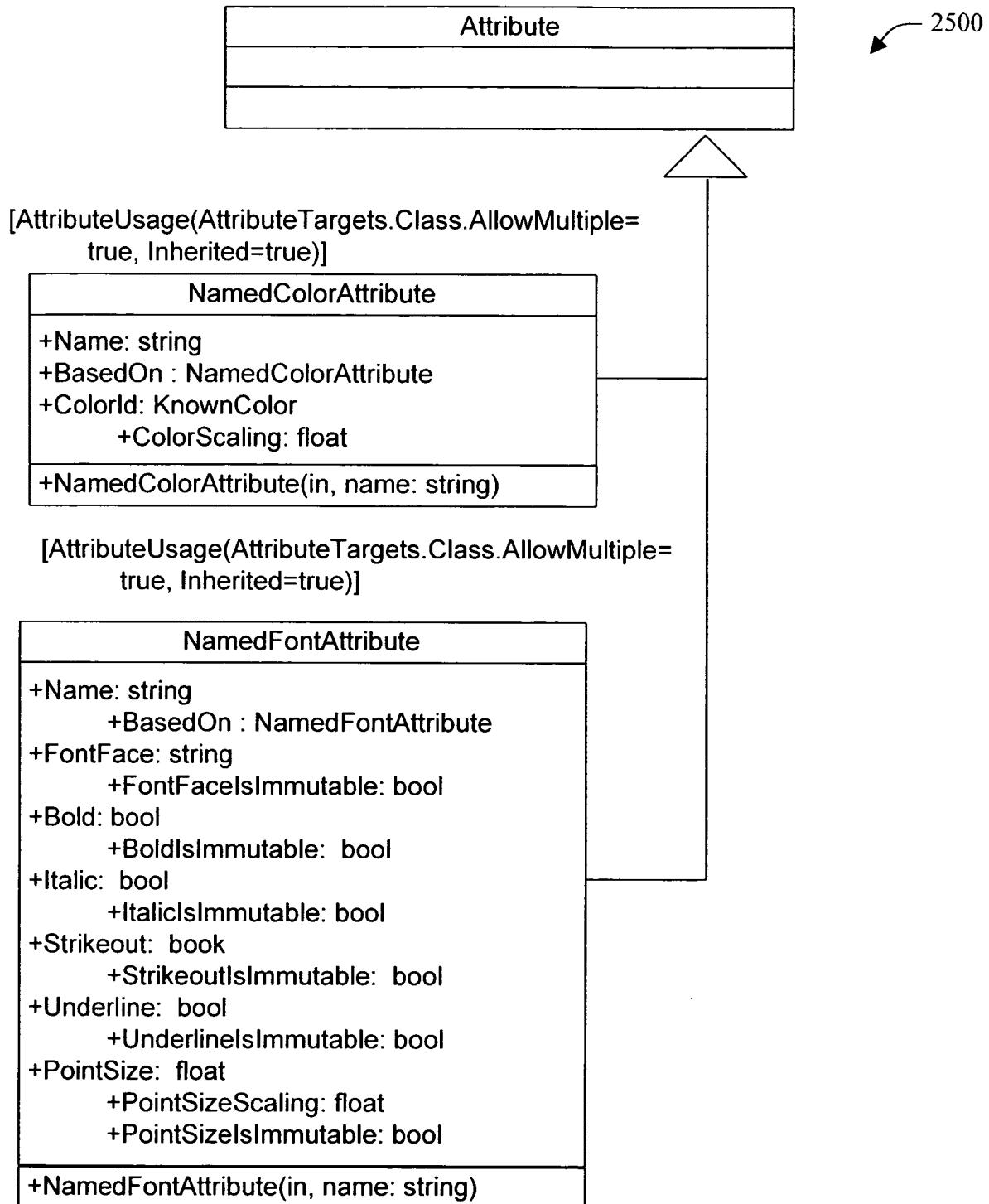


FIG. 25B

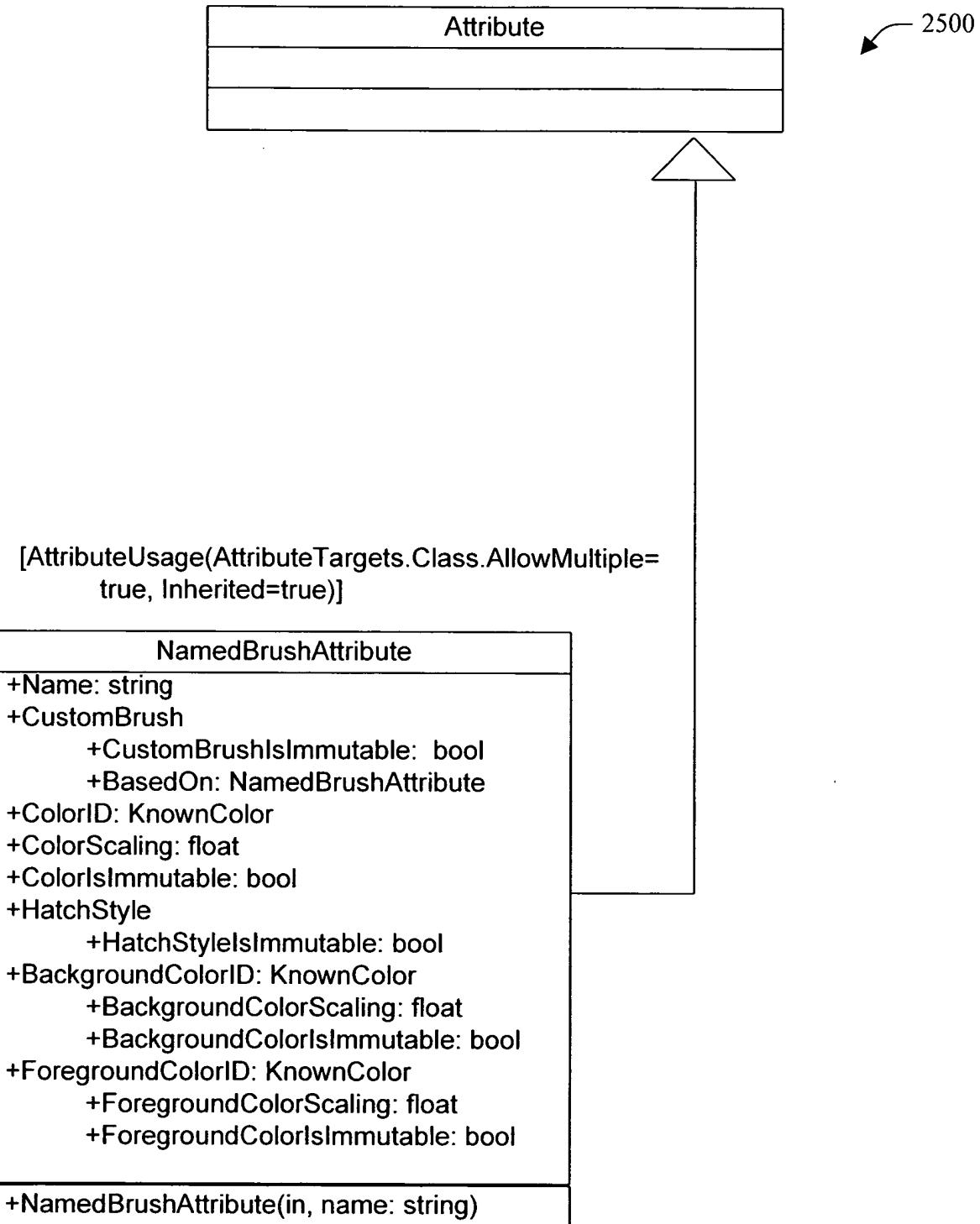


FIG. 25C

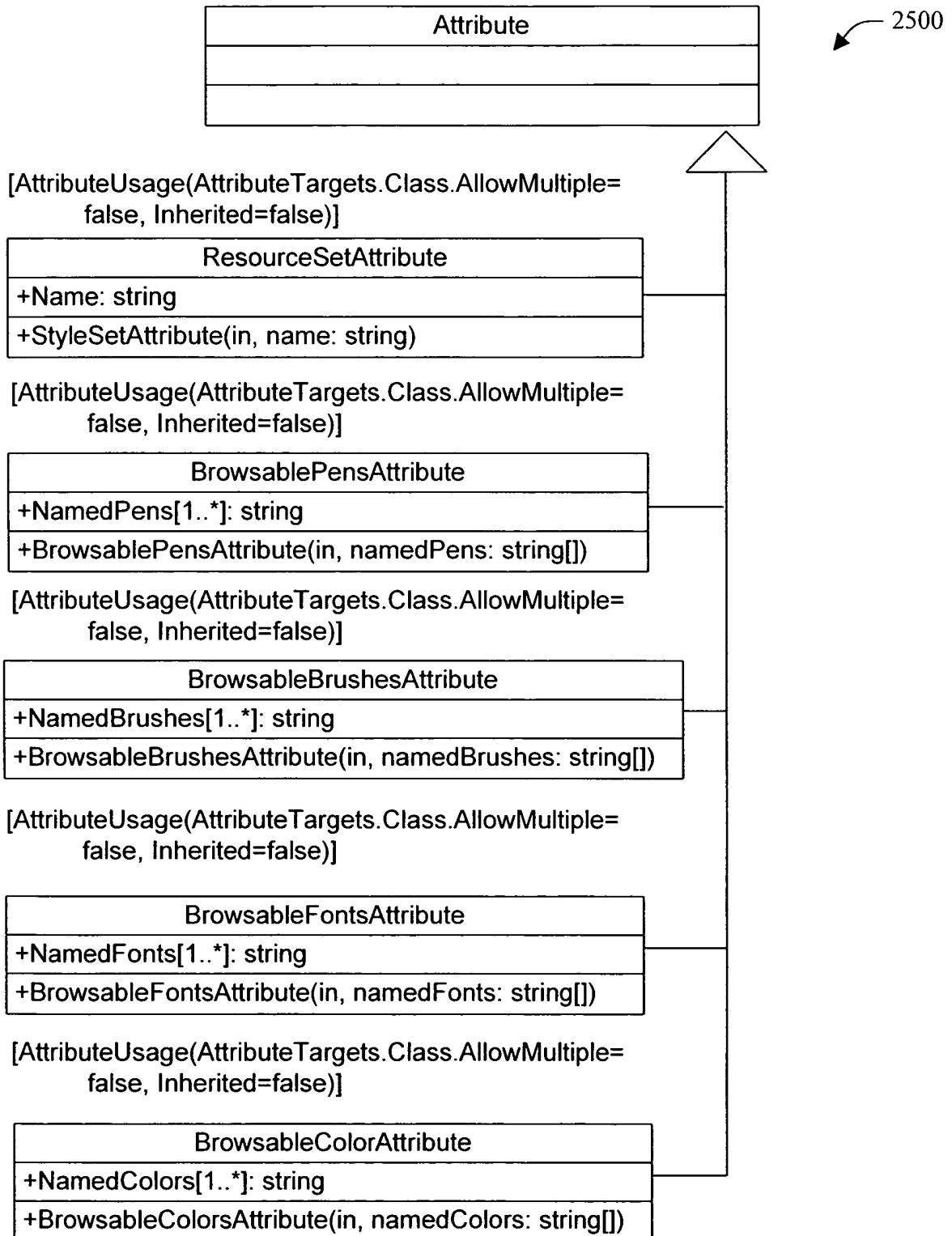


FIG. 25D

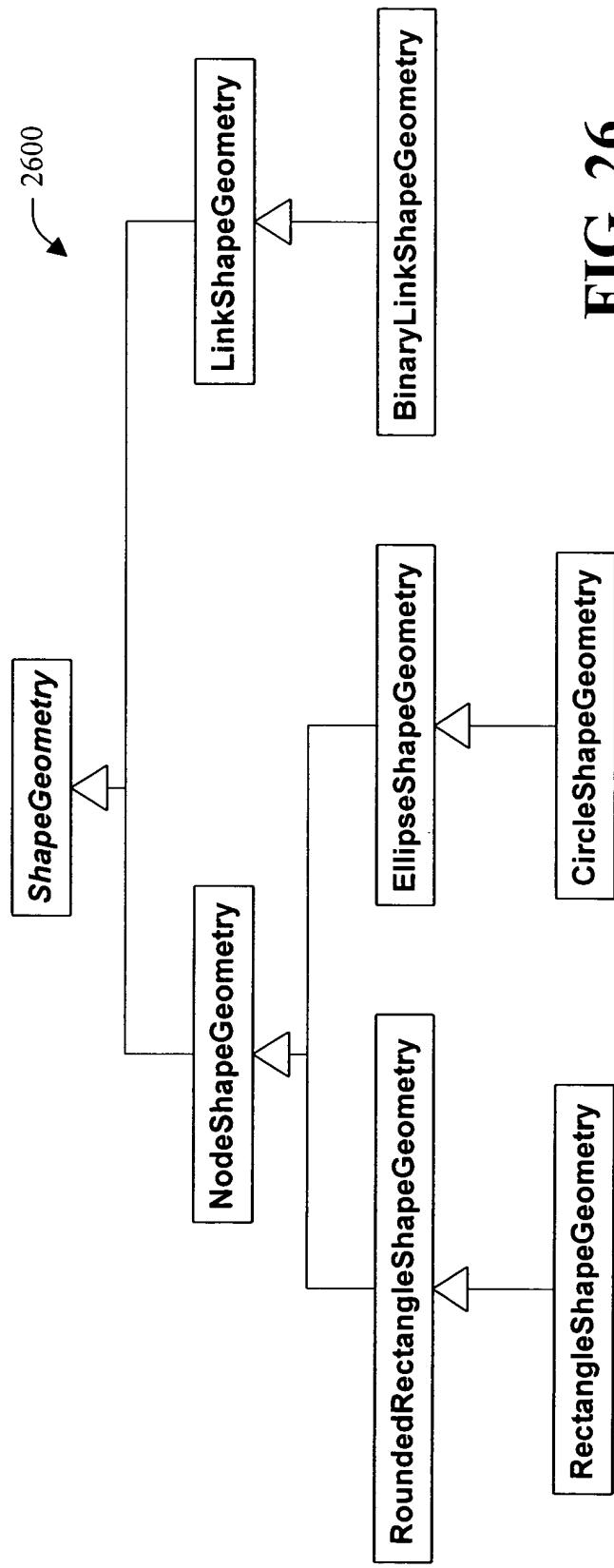


FIG. 26

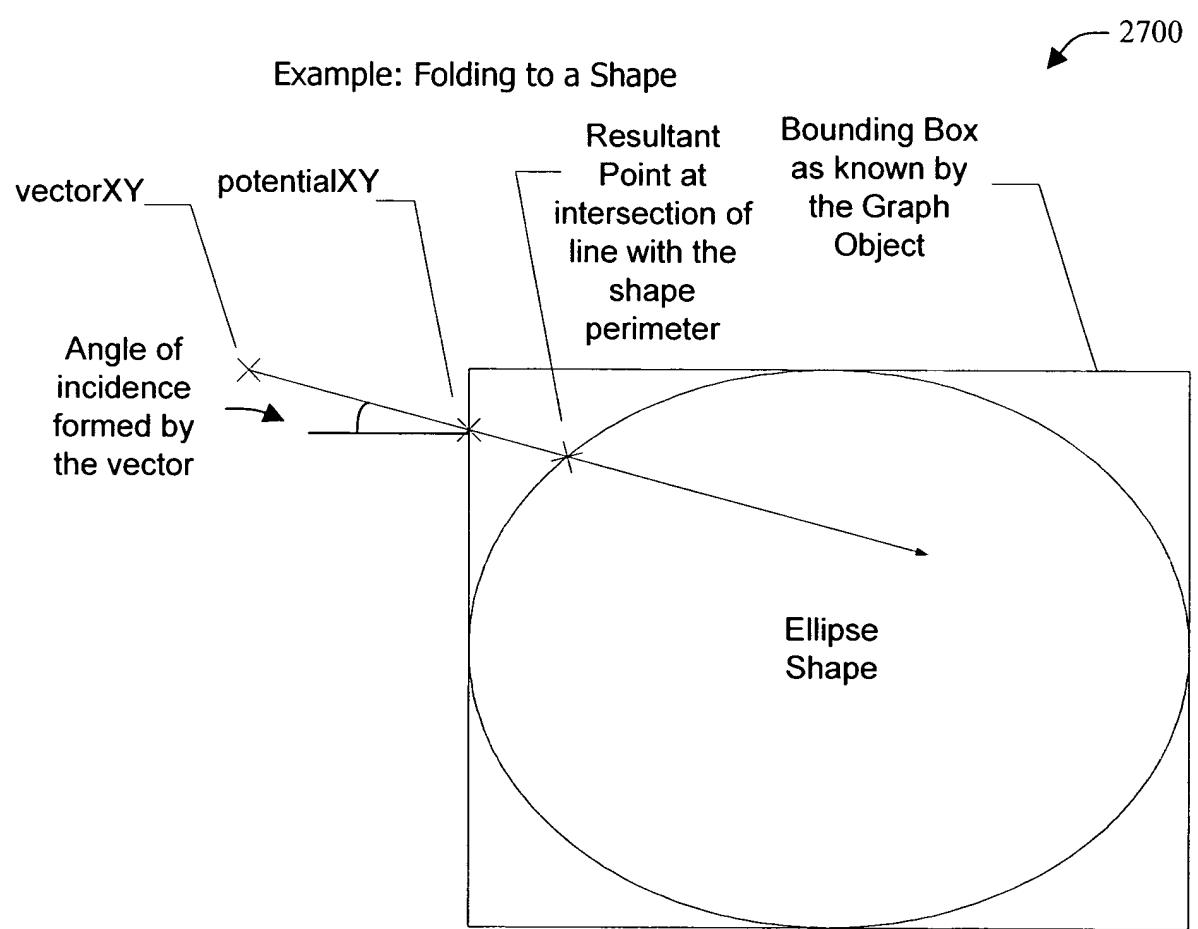


FIG. 27

FIG. 28

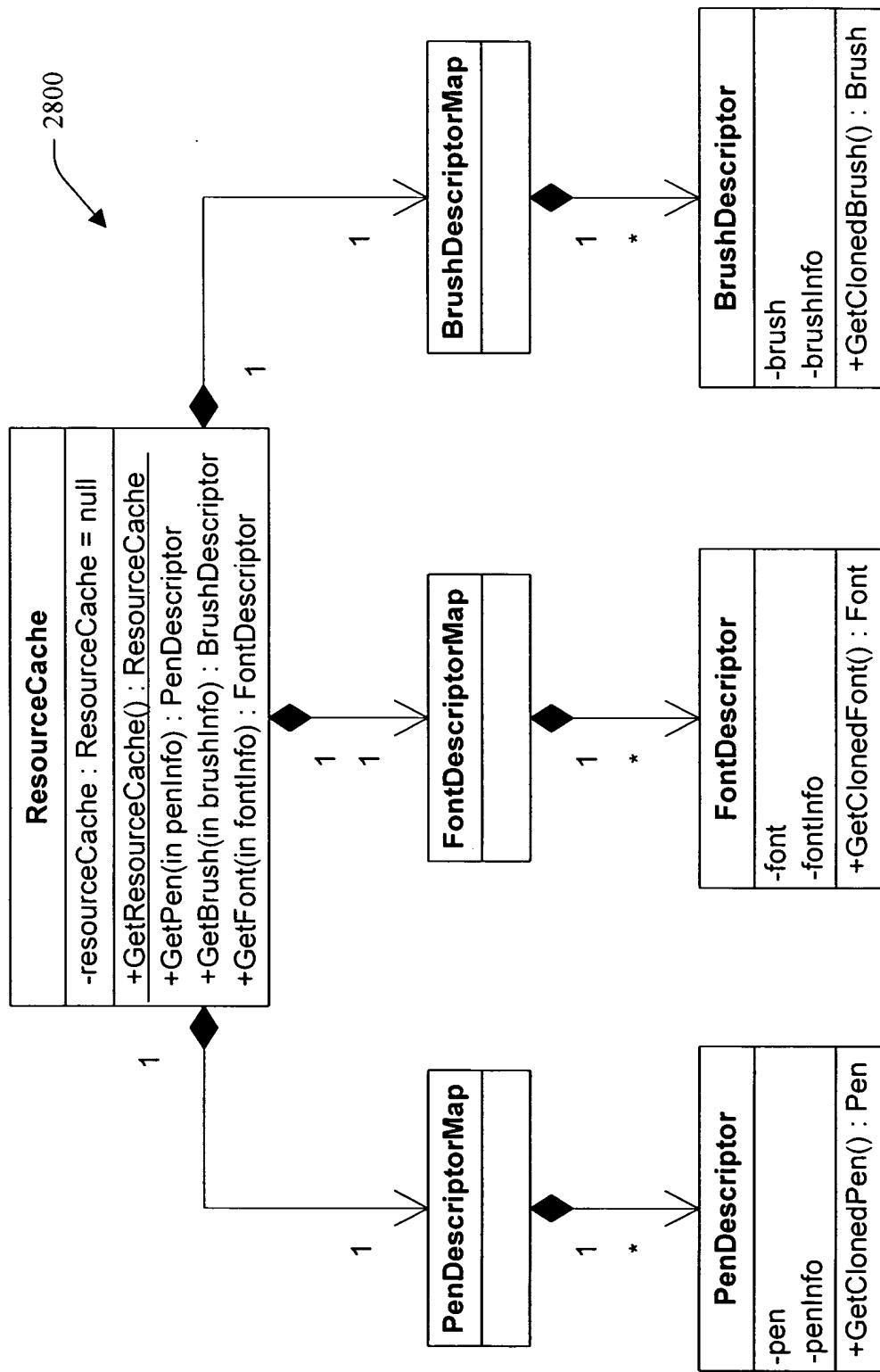
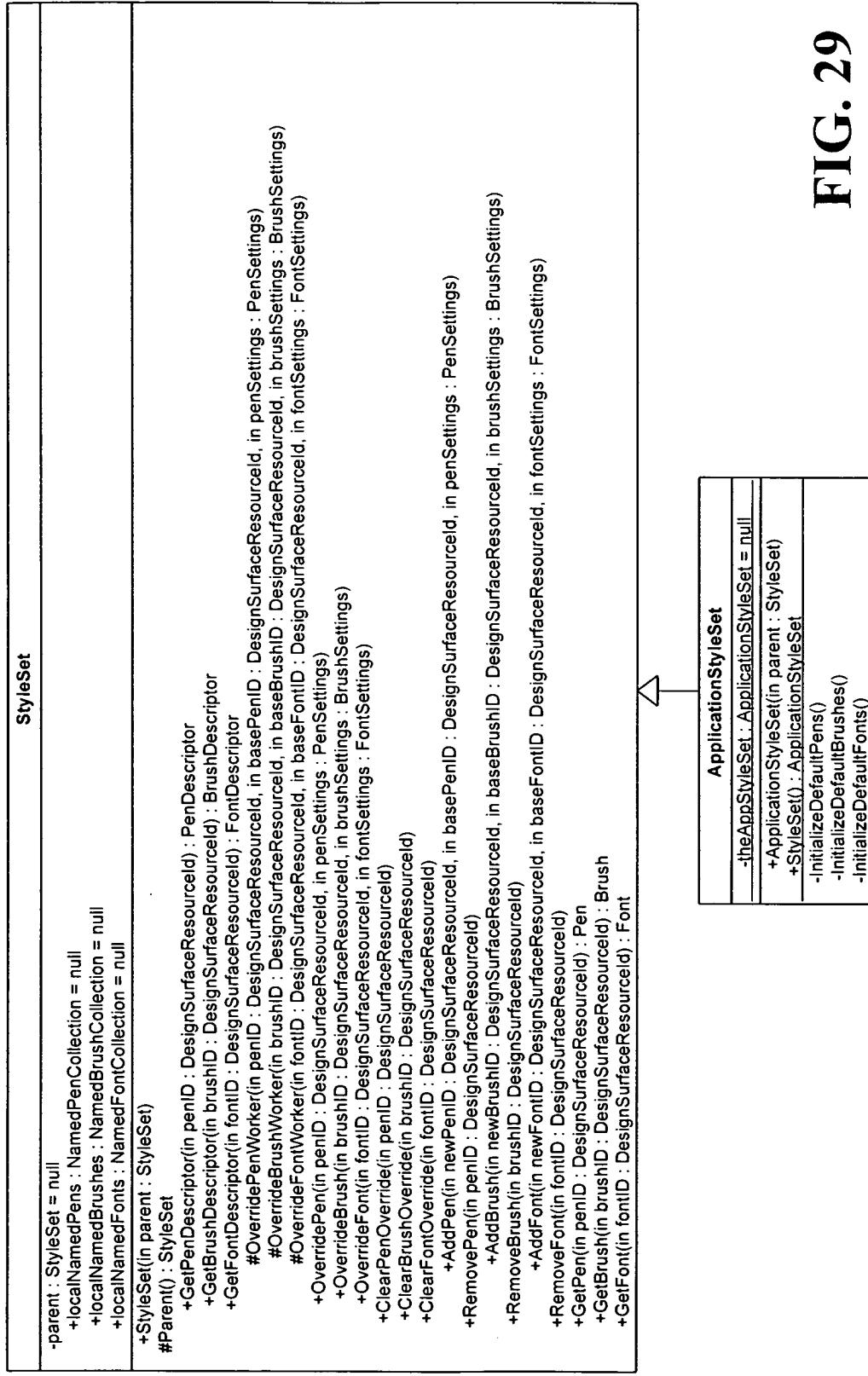


FIG. 29

2900



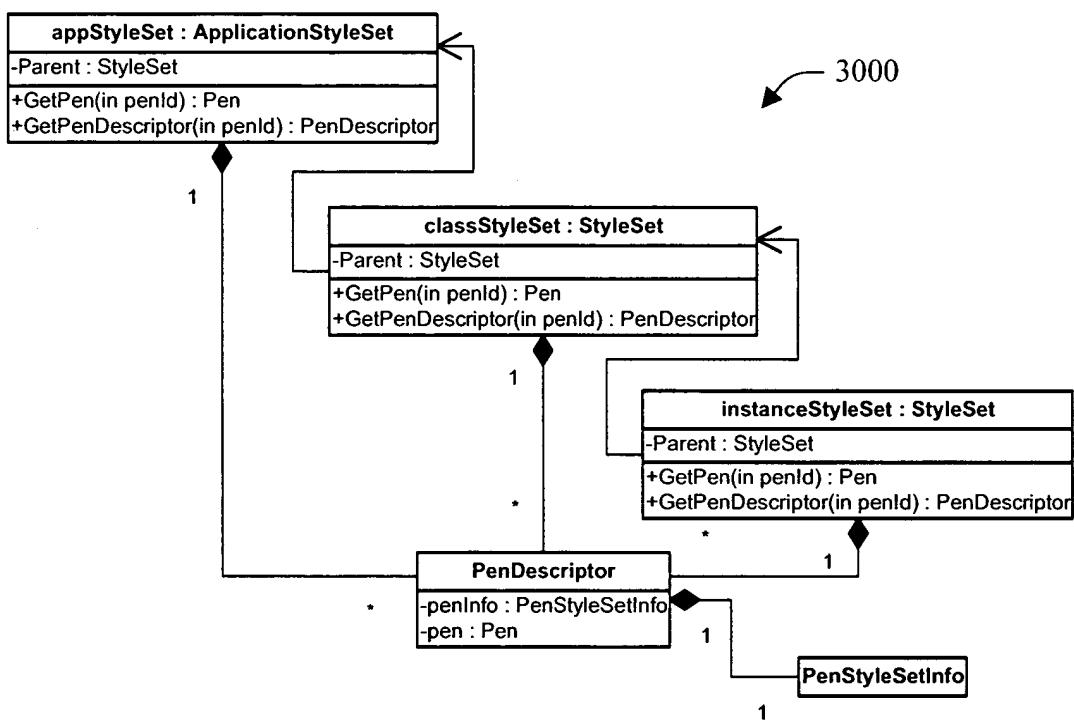


FIG. 30

3100

<i>ShapeSubField</i>
+ShapeSubField() +GetFocusable(<i>in parentShape</i> : ShapeElement, <i>in parentField</i> : ShapeField) : bool +GetSelectable(<i>in parentShape</i> : ShapeElement, <i>in parentField</i> : ShapeField) : bool +GetPotentialMouseAction(<i>in mouseButtons</i> : MouseButtons, <i>in point</i> : PointD, <i>in hitTestInfo</i> : DiagramHitTestInfo) : MouseAction +OnKeyDown(<i>in keyArgs</i> : DiagramKeyEventArgs) +OnKeyUp(<i>in keyArgs</i> : DiagramKeyEventArgs) +OnKeyPress(<i>in keyPressArgs</i> : DiagramKeyPressEventArgs)

FIG. 31

3200

DiagramItem
-shape : ShapeElement = null
-field : ShapeField = null
-subField : ShapeSubField = null
+DiagramItem()
+DiagramItem(in shape : ShapeElement)
+DiagramItem(in shape : ShapeElement, in field : ShapeField)
+DiagramItem(in shape : ShapeElement, in field : ShapeField, in subField : ShapeSubField)
+Shape() : ShapeElement
+Field() : ShapeField
+SubField() : ShapeSubField
+SetItem(in shape : ShapeElement)
+SetItem(in shape : ShapeElement, in field : ShapeField)
+SetItem(in shape : ShapeElement, in field : ShapeField, in subField : ShapeSubField)
+CanSelect() : bool

FIG. 32

3300

DiagramHitTestInfo
<code>-diagramClientView : DiagramClientView = null</code>
<code>-hitItem : DiagramItem = null</code>
<code>-hitGrabHandle : GrabHandle = null</code>
<code>-emptyHitItem : DiagramItem = new DiagramItem()</code>
<code>+DiagramHitTestInfo(in diagramClientView : DiagramClientView)</code>
<code>+DiagramClientView() : DiagramClientView</code>
<code>+HitDiagramItem() : DiagramItem</code>
<code>+HitGrabHandle() : GrabHandle</code>

FIG. 33

3400

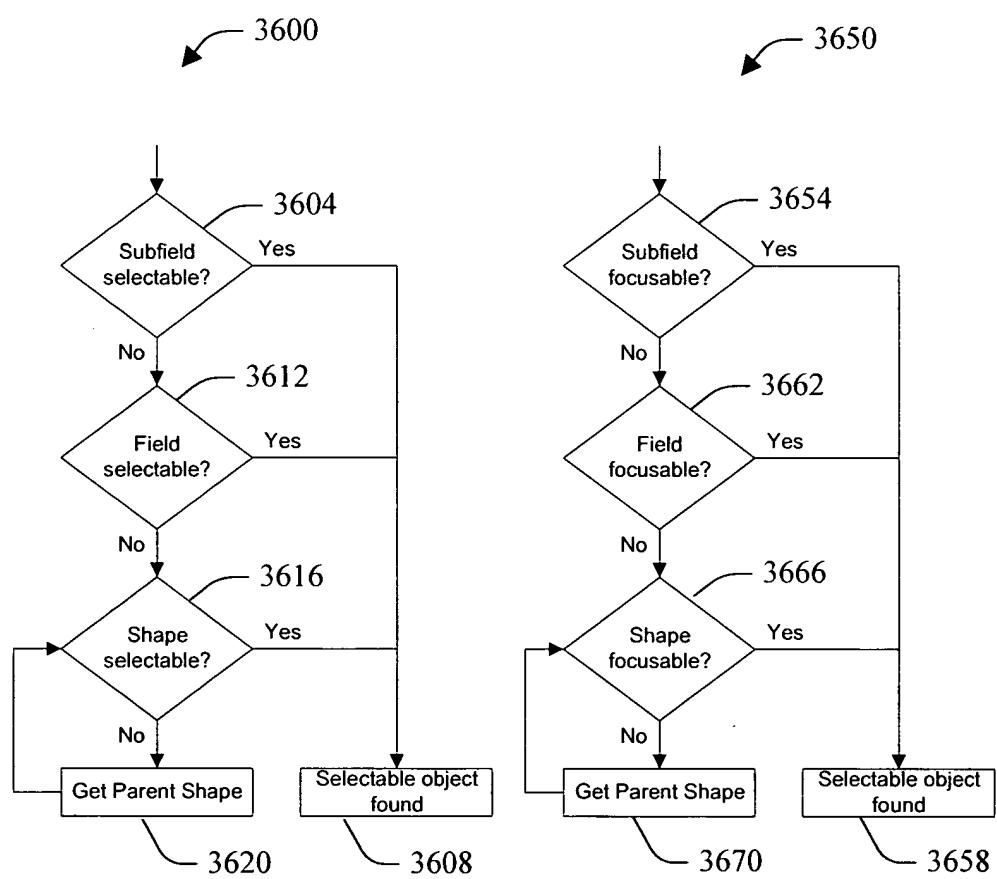
<i>ShapeField</i>
+DoPaint(in e : DiagramPaintEventArgs, in parentShape : ShapeElement)
+DoHitTest(in point : PointD, in parentShape : ShapeElement, in diagramHitTestInfo : DiagramHitTestInfo)

FIG. 34

3500

SelectedShapesCollection	
<code>-diagramItemCollection : DiagramItemCollection = new DiagramItemCollection()</code>	
<code>-selectionChanging : bool = false</code>	
<code>-diagramClientView : DiagramClientView = null</code>	
<code>-focusedItem : DiagramItem = null</code>	
<code>-anchorItem : DiagramItem = null</code>	
<code>+SelectedShapesCollection(in diagramClientView : DiagramClientView)</code>	
<code>+PrimaryItem() : DiagramItem</code>	
<code>+FocusedItem() : DiagramItem</code>	
<code>+AnchorItem() : DiagramItem</code>	
<code>+Add(in diagramItem : DiagramItem)</code>	
<code>+Remove(in diagramItem : DiagramItem)</code>	
<code>+Set(in diagramItem : DiagramItem)</code>	
<code>+Add(in diagramItems : DiagramItemCollection)</code>	
<code>+Remove(in diagramItems : DiagramItemCollection)</code>	
<code>+Set(in diagramItems : DiagramItemCollection)</code>	
<code>+Toggle(in diagramItems : DiagramItemCollection)</code>	
<code>+Clear()</code>	
<code>+Contains(in diagramItem : DiagramItem) : bool</code>	
<code>-Invalidate()</code>	
<code>+Count() : int</code>	

FIG. 35



3700

DiagramSelectionRules
+DiagramSelectionRules()
+GetCompliantSelection(<i>in</i> currentSelection : SelectedShapesCollection, <i>in</i> proposedItemsToAdd : DiagramItemCollection, <i>in</i> proposedItemsToRemove : DiagramItemCollection, <i>in</i> primaryItem : DiagramItem) : bool

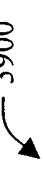
FIG. 37

3800

SelectedShapesCollection
+SelectedShapesCollection(in diagramClientView : DiagramClientView)
+PrimaryItem() : DiagramItem
+FocusedItem() : DiagramItem
+AnchorItem() : DiagramItem

FIG. 38

FIG. 39



ShapeSubField	
+ShapeSubField()	
+GetFocusable(in parentShape : ShapeElement, in parentField : ShapeField) : bool	
+GetSelectable(in parentShape : ShapeElement, in parentField : ShapeField) : bool	
+GetPotentialMouseAction(in mouseButtons : MouseButtons, in point : PointD, in hitTestInfo : DiagramHitTestInfo) : MouseAction	
+OnKeyDown(in keyArgs : DiagramKeyEventArgs)	
+OnKeyUp(in keyArgs : DiagramKeyEventArgs)	
+OnKeyPress(in keyPressArgs : DiagramKeyPressEventArgs)	

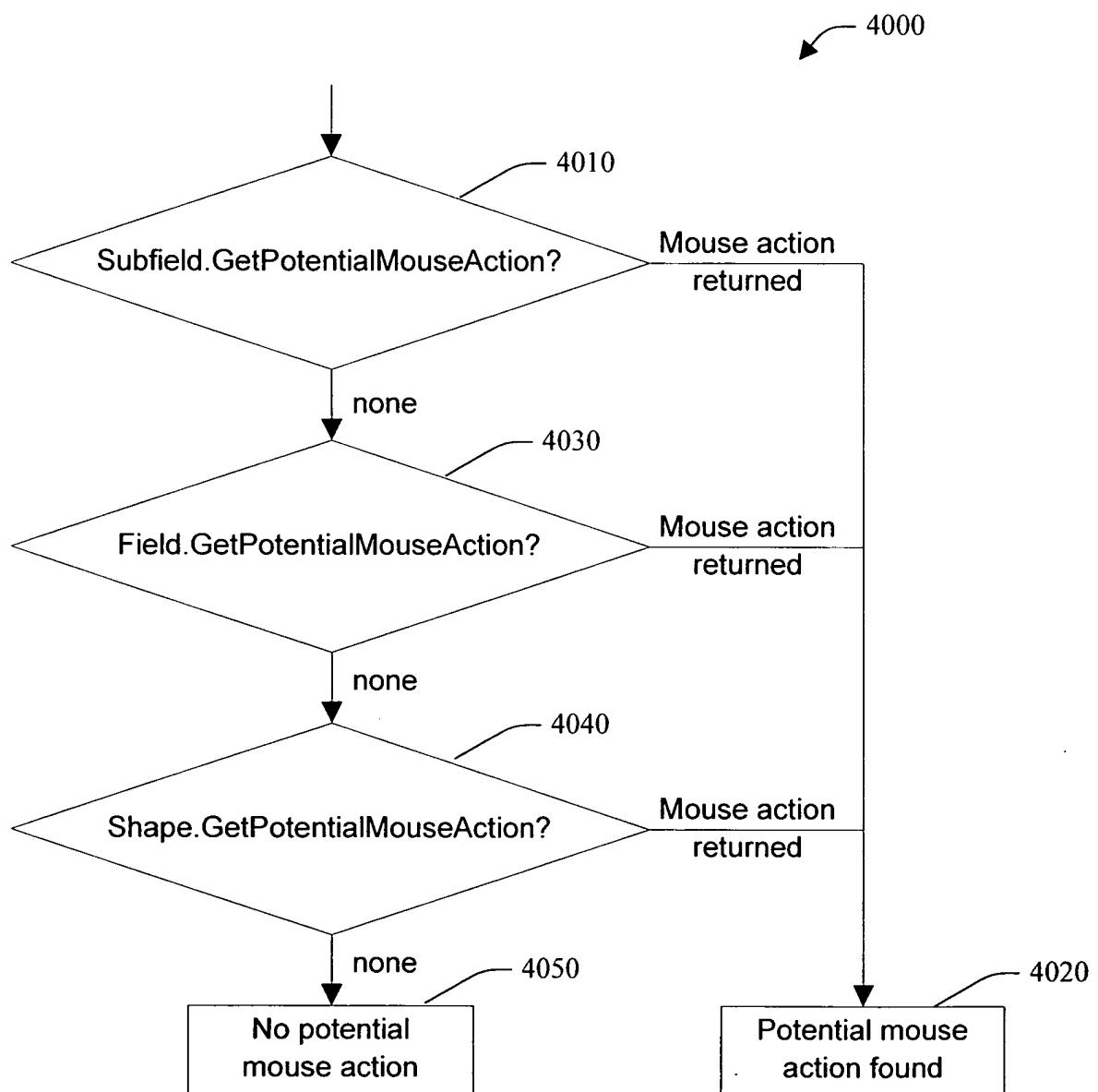


FIG. 40

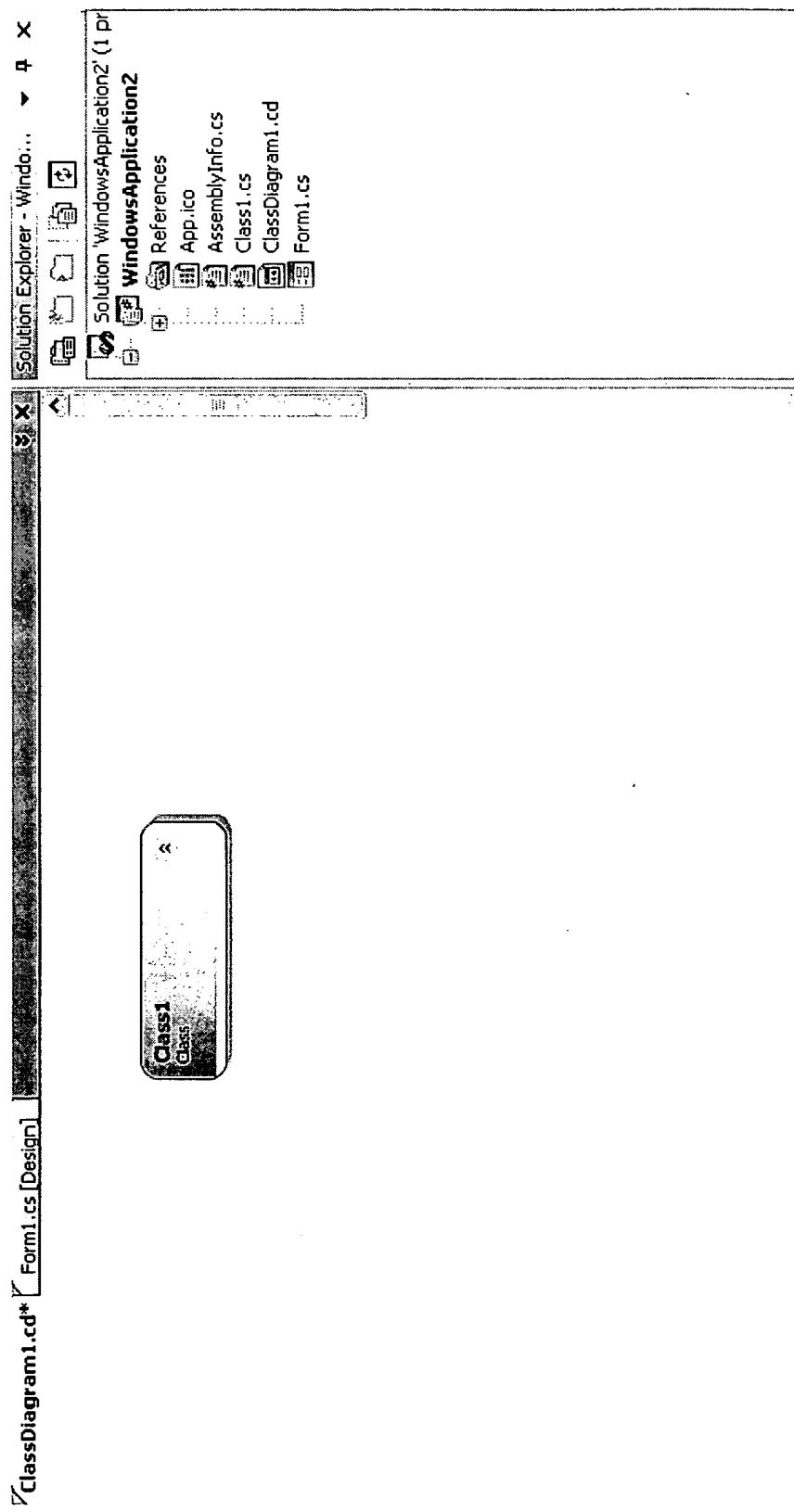


FIG. 41

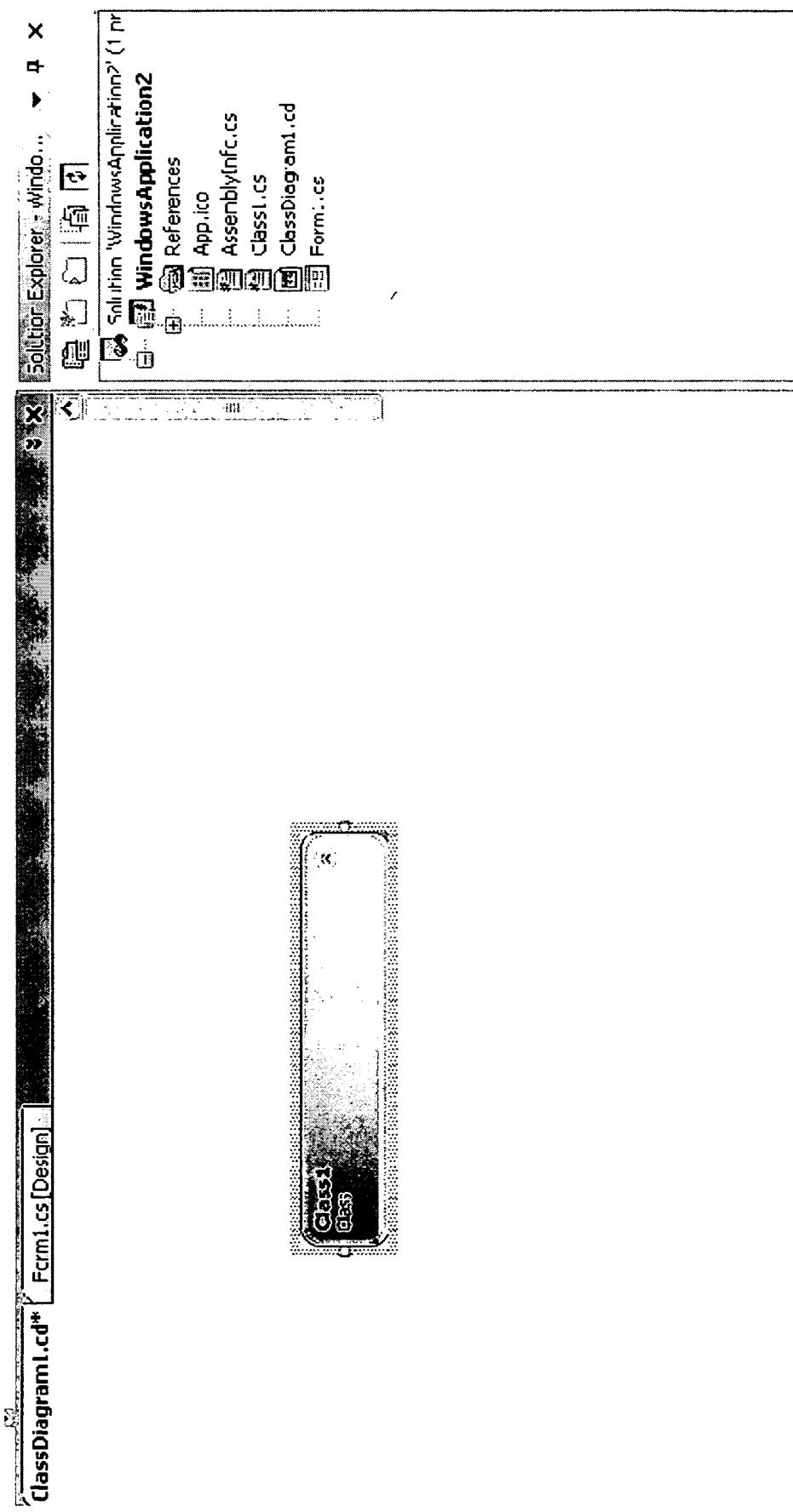


FIG. 42

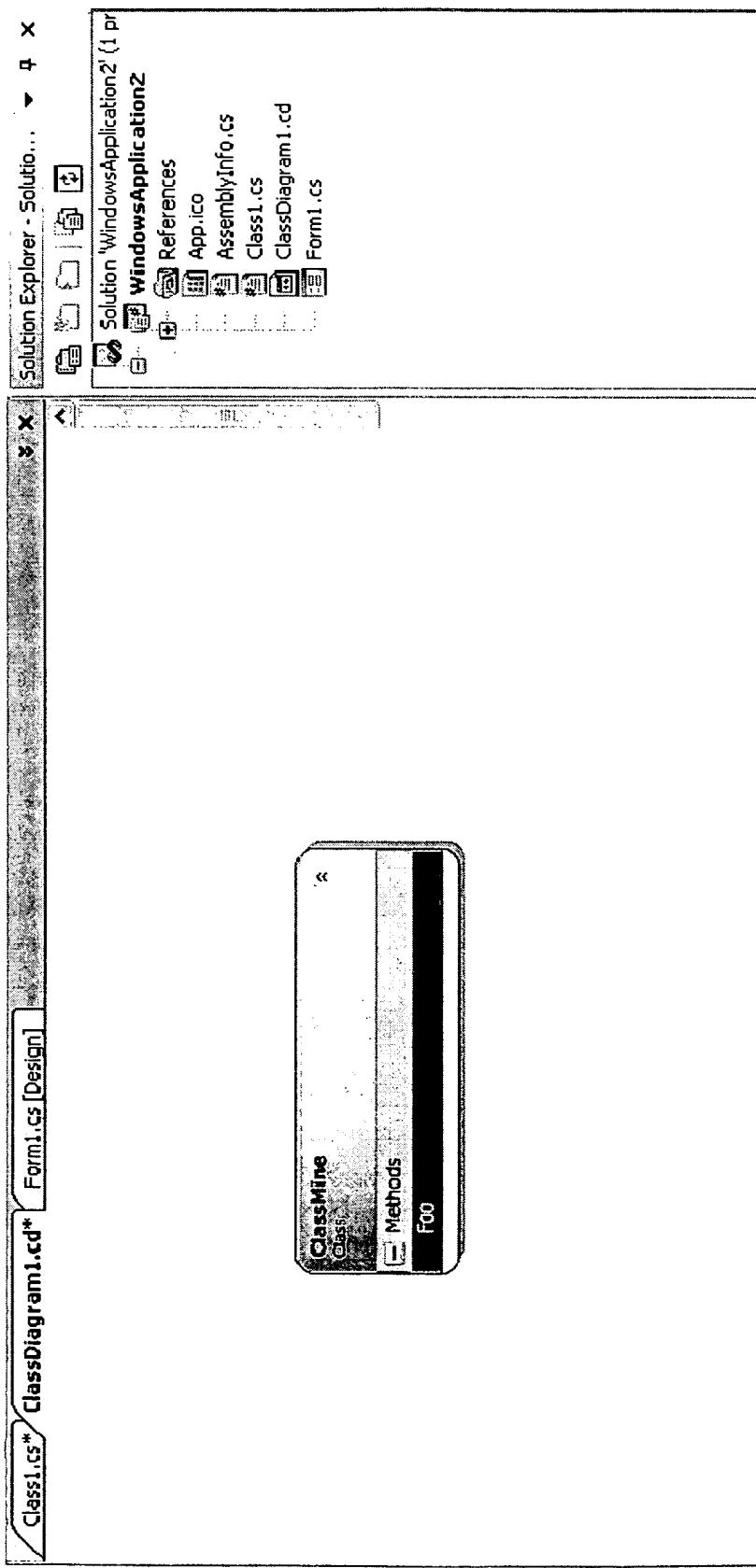


FIG. 43

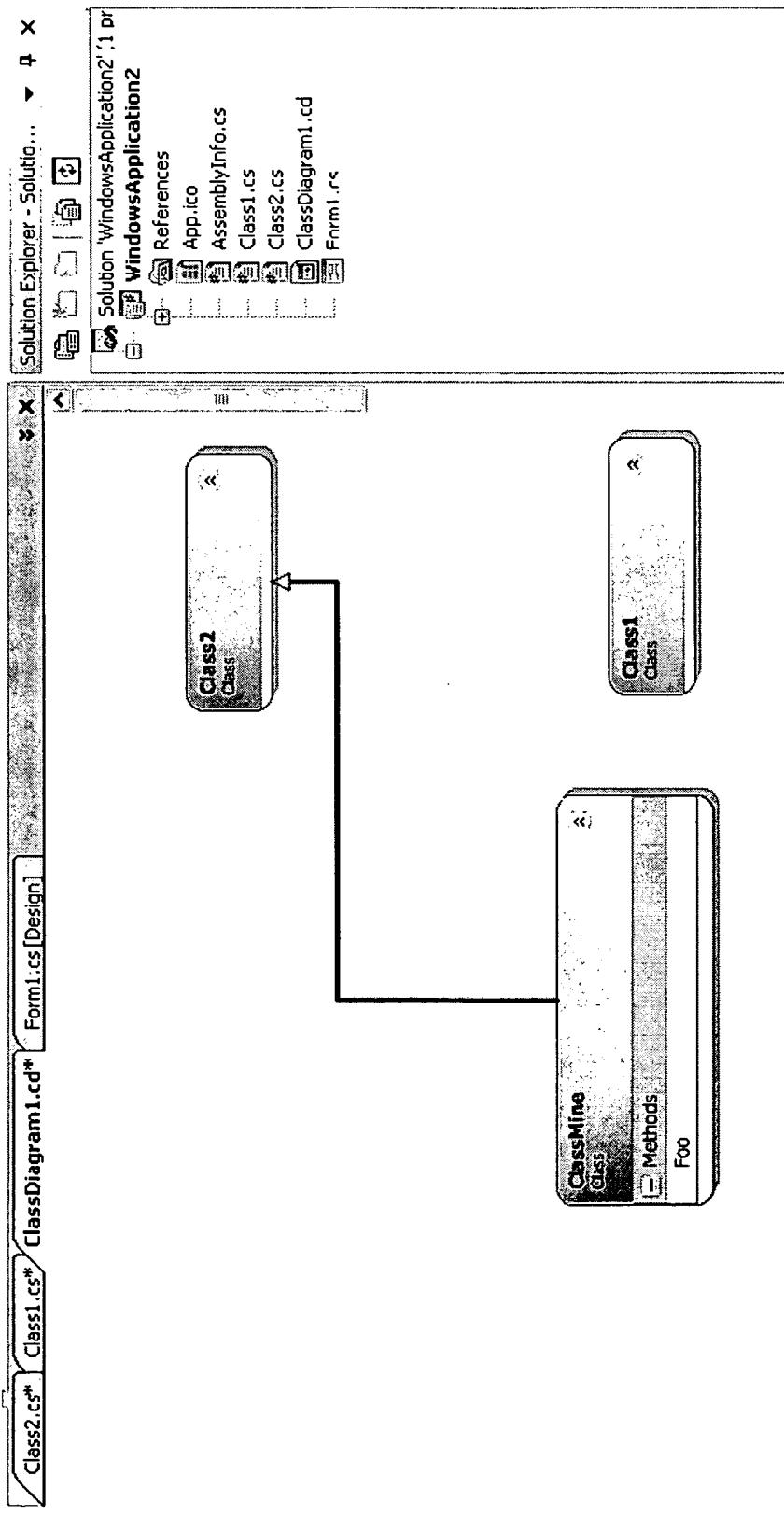


FIG. 44

FIG. 45

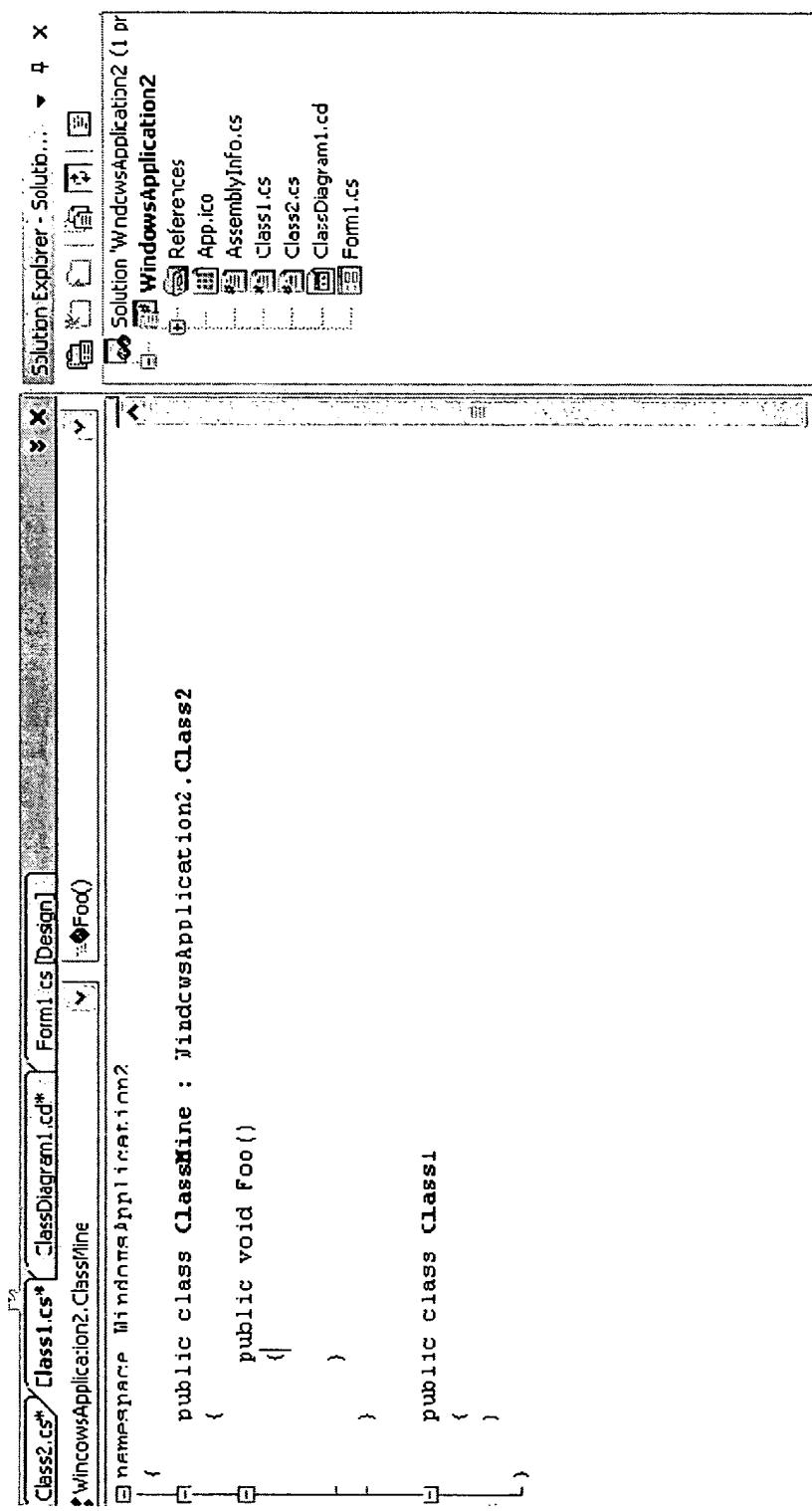
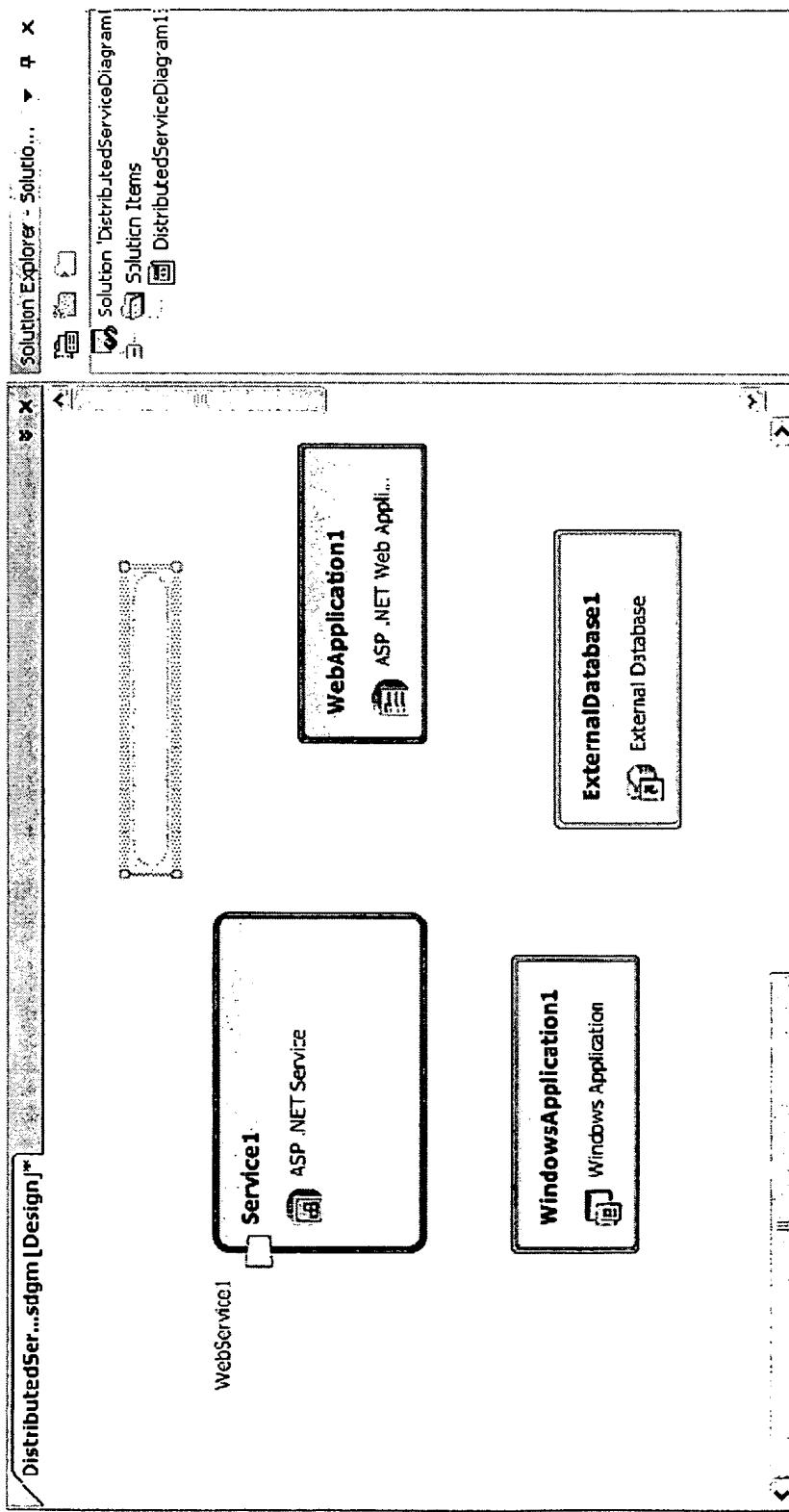


FIG. 46



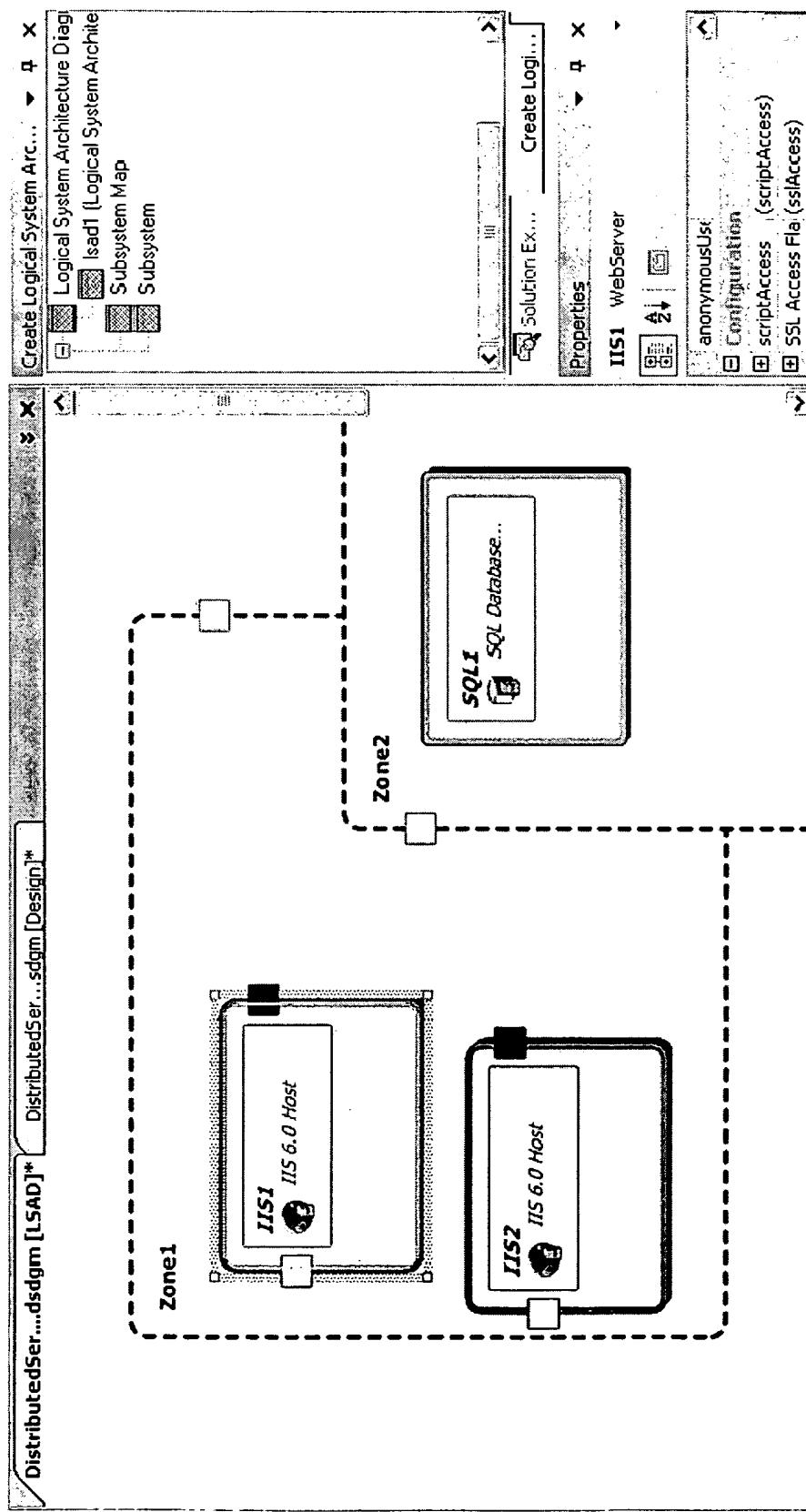


FIG. 47

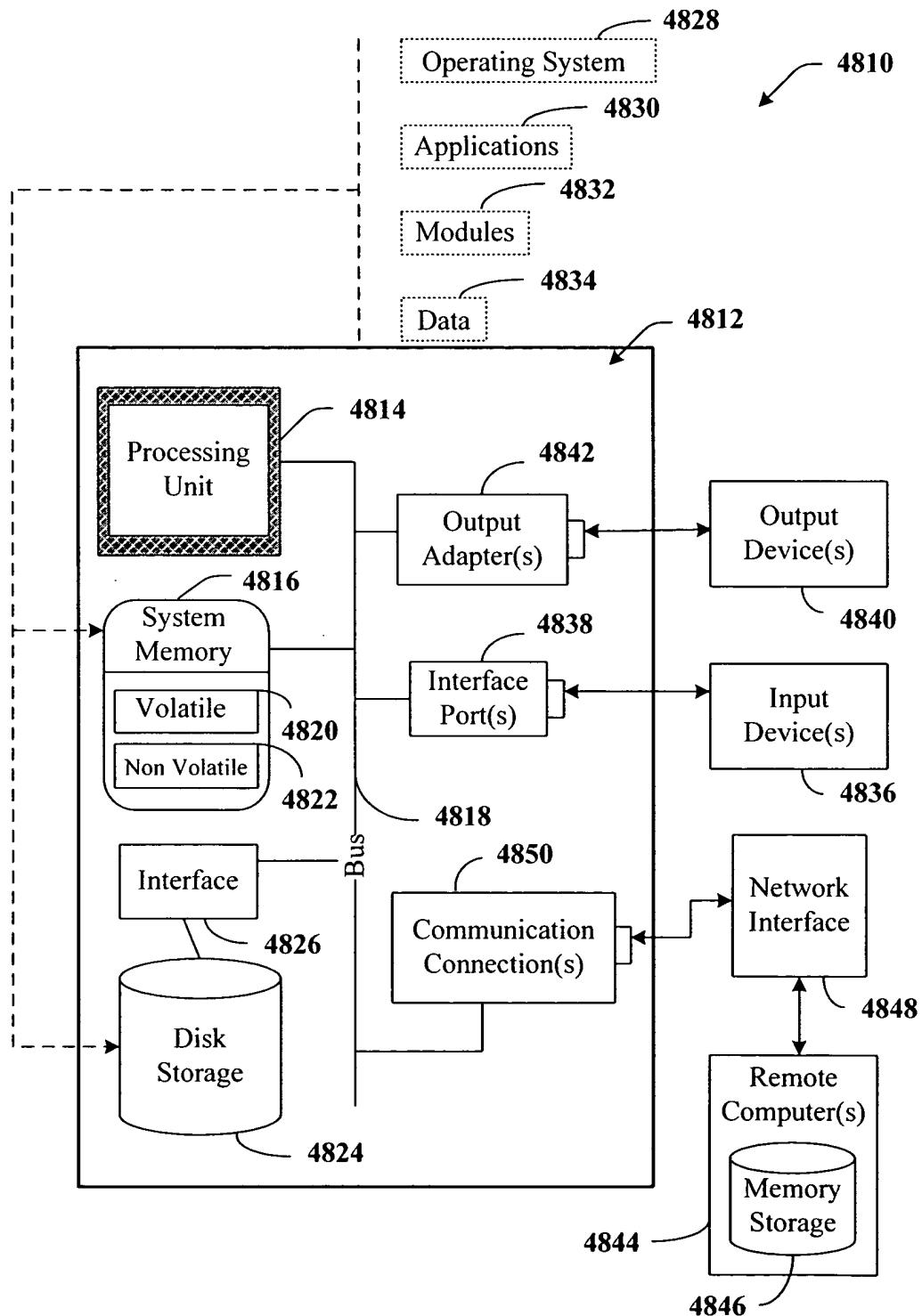


FIG. 48